Halliburton NUS
CORPORATION

452 Burbank Street
Broomfield, CO 80020

(303) 466-3573
FAX: (303) 469-6354

February 10, 1994

Mr. Tom Beckman
Project Manager
EG&G Rocky Flats Project
Building 080
Golden, CO 80402-0464

Subject: SUBCONTRACT PC84017JB ROCKY FLATS SOLAR POND/PONDCRETE PROJECT [WBS 710 - PROJECT MANAGEMENT - HALLIBURTON NUS ROCKY FLATS] PONDCRETE AND SALTCRETE SAMPLING OBSERVATION SUMMARY REPORTS RF-HED-93-0038

Dear Mr. Beckman:

Enclosed are the Pondcrete and Saltcrete Sampling Observation Summary reports recently completed by J. H. Templeton. The Sampling occurred in early 1992, but the completion of the report was delayed until time was made available this year.

Mr. Leon Collins has (through an informal transmittal) already received his copies of both reports, and has been given a copy of the Saltcrete report to forward to Mr. Mike Connell.

This closes out all outstanding activities by J. H. Templeton.

If you have any questions or comments, please contact me.

Sincerely,

HALLIBURTON NUS CORPORATION

Roger A. Hiss
Administrative Manager

RAH/tw

cc: M. Gibson w/o attachments

Attachments: Memorandum to J. R. Zak January 4, 1994 Pondcrete Sampling Observations - Summary
Memorandum to J. R. Zak February 9, 1994 Saltc[illegible]mpling Observations - Summary

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RF-HED-93-0038

INTEROFFICE MEMORANDUM

DATE: February 9, 1994

FILE NO. 765.9

TO: J. R. Zak

FROM: J. H. Templeton JHT

SUBJECT: EG&G Rocky Flats
Solar Pond/Pondcrete Stabilization Project
B&R Job No. JR-1198

REFERENCE: **Saltcrete Sampling Observations - Summary**

Attached (see below) is all the documentation from the Saltcrete waste form sampling, performed between January 7 and 30, 1992. Sampling was performed based upon the Pondcrete/Saltcrete Sampling and Analysis Plan, Pondcrete/Saltcrete Sampling Standard Operating Procedure, and all upper tier documents (i.e. HNUS Health and Safety Plan, HNUS Quality Assurance Plan). Halliburton NUS used a statistical analysis to select which blocks would be sampled, based on the storage method (number of stand-along triwalls, number of triwalls in metal containers, and the number of saltcrete halfcrates), and the placement in each waste storage area (stack #, tent #, pad #). The statistics and selection were not based on production number or accumulation date. During the time period stated above 40 stand-alone triwalls, 8 triwalls in metal containers, and 12 halfcrates, for a total of 60 saltcrete blocks were sampled. The block sampling order was random.

The following summary table contains most of the pertinent sampling data, and is intended to draw comparisons between samples, not the replace the observations data sheets. After all of the data was entered into the summary table format it was sorted based on accumulation date and triwall number.

Examining the ordered block numbers and accumulation dates indicates that for some of the triwalls in metals, either the accumulation date of the metal (instead of the triwall) was noted (e.g. #3326, #3257, #3287), or a wrong date was recorded (e.g. #4099). Some of the stand alone triwalls (#3018, #2410, #4440, #4436, #4634) also have conflicting accumulation dates indicating either the block was assigned a number outside the numerically increasing sequence, or the accumulation dates were assigned at some time after production. Finally, triwall #13524, may possibly be #3524 as this would make both the numerical sequence and the accumulation dates agree.

The data in the summary table was sorted and analyzed for similarities by the following categories:

I DATE/BLOCK NUMBER/CONTAINER TYPE

Stand-Alone triwalls - No correlation or similarities are observed through sequential block number and date. Also, by comparing observations for blocks with the same accumulation date (2410-3125-3137) or within a 2 to 14 day range of accumulation dates (3440-3456-13524-3653;

3817-3831-3873-3874-3882-3886; 4059-4031-4084; 4440-4436-4634) indicates either a wide variation in the feed material which could not be averaged out by the stabilization formula, or poor control in the addition of the formula components.

Triwalls-In-Metals - Typically stand-along triwalls were placed in metal containers due to the triwall box leaking, sagging, breaking open or the material inside not being hard enough to support the weight of one or more blocks being stacked on top of it. The following comparisons could be made.

- 8 of the 48 triwalls sampled (17%) were in metal containers.
  - 7 of 8 (88%) had orange discolored liners, and 1 of 8 had rust discoloration.
  - 7 of 8 (88%) had liners which were brittle and torn.
- 5 of 8 (62%) had penetrometer readings of 0.
- 7 of 8 (88%) were grey or white in color.
- 6 of 8 (75%) were dry or had slight moisture.
- 5 of 8 (62%) were relatively soft throughout.

Halfcrates - The 12 halfcrates which were sampled were produced between 6/89 and 9/91, and the following comparisons could be made.

- Nearly all liners noted were clear, flexible, and intact.
- All blocks (100%) showed penetrometer readings > 4.5.
- 9 of 12 (75%) were grey in color, and all 12 were of a shade of grey.
- All 12 (100%) were dry.
- 10 of 12 (83%) were very hard, and none were soft.
- 9 of 12 (75%) broke into large chips or slabs when sampled.

II COMPARISON BY LINER CHARACTERISTICS

During sampling the liner condition was noted for:

Color	C - Clear (no discoloration) O - Orange discoloration R - Rust discoloration
Flexibility	F - Flexible B - Brittle
Integrity	I - Intact T - Torn

- 20 Blocks (33%) were noted to have clear liners.
  Of these, 14 (70%) were dry, 13 (65%) were hard or very hard throughout, and 16 (80%) had a grey-shade coloring.

- 26 Blocks (43%) were noted to have flexible liners.
  Of these, 14 (54%) were dry, 14 (54%) were hard or very hard throughout, and 20 (77%) had a grey-shade coloring.

- 29 Blocks (48%) were noted to have intact liners.
  Of these, 15 (52%) blocks were dry, 18 (62%) were hard or very hard throughout, and 23 (79%) had a grey-shade coloring.

- 30 (50%) of the blocks were noted to have orange-discolored liners.
  Of these, 23 blocks (77%) had a grey color.

- 18 Blocks (30%) were noted to have brittle liners.
  Of these, 15 (83%) had a grey color.

- 12 Blocks (20%) were noted to have torn liners.
  Of these, 6 blocks (50%) were dry, and 9 (75%) had a grey-shade coloring.

- 5 Blocks (8%) were noted to have rust discolored liners.
  Of these, 4 (80%) were dry or contained slight moisture, 3 (60%) were of medium hardness (1 hard, 1 very hard), and all (100%) had a grey-shade coloring.

A clear, flexible, intact liner was considered to be in like-new condition. A liner with orange discoloration could still flexible and intact, but a brittle liner was always discolored, and a torn liner was always discolored and nearly always brittle. A mildly discolored liner, i.e. light orange or light rust, tended to be more flexible than a darker discolored liner, i.e. dark orange, or red. The darker the discoloration, the more brittle the liner, and the more likely it was to be torn.

III MATERIAL COLOR

- 29 Blocks (48%) were grey colored material.
  Of these, 22 (76%) were dry or had slight moisture, 14 (48%) had penetrometer readings > 4.5, 13 (45%) were hard or very hard throughout, and 12 (41%) had a medium hardness throughout.

- 15 Blocks (25%) were light grey or grey-white in color.
  Of these, 9 (60%) were dry or had slight moisture, 7 (47%) were hard or very hard throughout, and 7 (47%) had a medium hardness throughout.

- 1 Block (2%) was a dark-grey colored material.
  It had a white crust across the top, had penetrometer readings > 4.5, was dry and very hard. The material surface had voids and looked like pumice.

- 7 Blocks (12%) had white or off-white colored material, of mixed observable characteristics.

- 6 Blocks (10%) were a brown shade (Brown-Grey, Brown-Rust, Grey-tan, Light brown, and Tan).
  Of these, 5 blocks (83%) were dry or of slight moisture, 3 (50%) were hard or very hard, 3 (50%) had penetrometer readings < 1.25, and 4 (67%) had orange liners, 3 of which (50%) were also brittle and torn.

- 2 Blocks (3%) were a green-shade (grey-green, tan-green). Both blocks had orange discolored liners and medium penetrometer readings of 2.5 - 3.0. The blocks were soft to medium in apparent hardness throughout.

IV WETNESS OF MATERIAL

- 29 Blocks (48%) were dry.
  Of these, 18 blocks (62%) had penetrometer readings of 4.0 to > 4.5, 23 blocks (79%) were grey colored material, and 22 blocks (76%) were hard or very hard.

- 14 Blocks (23%) had slight moisture.
  10 of these blocks (71%) had an orange discolored liner.

- 10 Blocks (17%) had moist material.
  Of these, 9 blocks (90%) were grey-shaded material, 7 blocks (70%) were medium in hardness, and 6 blocks (60%) had orange discolored liners.

- 2 Blocks had damp material. Both liners were orange, the material was grey, and the blocks were hard or very hard.

- 1 Block was wet inside. The penetrometer readings were all zero, the liner was orange, the material was grey-tan in color, was like a soft sand or mud, was sticky, and molded together when pressed by hand.

- None of the blocks sampled showed free moisture.

V APPARENT HARDNESS

Apparent hardness was estimated by the ease or difficulty encountered when inserting the Shelby tube through the block.

- 16 Blocks (27%) were very hard.
  Of these, 9 blocks (56%) had clear liners, 15 blocks (94%) had penetrometer readings > 4.5, 15 blocks (94%) had grey colored material, 13 blocks (81%) were dry, and 12 blocks (75%) created a dust-slab mixture when sampled.

- 14 Blocks (23%) were hard.
  Of these, 11 blocks (79%) were grey, and 9 blocks (64%) were dry.

- 21 Blocks (35%) were of medium hardness.
  Of these, 18 blocks (86%) were grey in color, and 12 blocks (57%) were dry or had slight moisture.

- 9 Blocks (15%) were soft.
  Of these, 8 blocks (89%) had orange liners, 7 blocks (78%) had penetrometer readings of 0, 5 blocks (56%) were a grey-shade, and 6 blocks (67%) were dry or had slight moisture. All of the blocks yielded fine powder to sandy material for the sample.

VI MISCELLANEOUS OBSERVATIONS

Ammonia Smell - Three of the triwall blocks expelled an ammonia smell immediately upon opening. An additional triwall block did not begin to smell until sampled to a depth of approximately 10 inches. All of the triwalls were grey and had no voids. The blocks were of varying wetness, and hardness. Two of the four blocks were expanded.

Expanded - Five of the triwall blocks expanded sufficiently to either break the liner or the sides of the triwall box. All five blocks had orange liners with a mix of flexibility and integrity. Four of the five blocks had penetrometer readings less than 1.5, while the fifth block had penetrometer readings all > 4.5. All had dust or fine sand on the top of the block, and a mix of color, wetness and apparent hardness. Two of the blocks exhibited an ammonia smell, and two molded together when squeezed by hand.

Stickiness - Six of the triwall blocks, one of which was in a metal container, showed some degree of stickiness. All of the blocks were grey to grey-white in color, and tended to be soft to medium in apparent hardness.

Pumice-Like/Air-Bubbled - One of the blocks had an air-bubbled surface, and three had the appearance of pumice. Two of the blocks were triwalls and two were halfcrates. Three of the blocks had clear liners, and all four had intact liners. All four blocks were very hard, and grey to dark grey in color. The three pumice-like blocks were dry inside and the air-bubbled block was damp inside.

Work Softening - In sampling three of the blocks, work softening was observed, that is, the material was dry and hard until work was applied (e.g. drill compression, hammering, pressing, chiseling), forcing moisture out of the material, making it damp, soft, and pliable. It was only noticed in three blocks to which a great amount of force was used in sampling. It is possible, and likely that many of the dry, hard blocks sampled would also have exhibited work softening under similar sampling conditions. All three blocks had penetrometer readings > 4.5, were grey to dark grey in color, dry or had slight moisture, hard or very hard, and broke into slabs and chips. The material could not be broken or molded by hand, unless first worked into a soft mass.

Clay-Like Texture - Ten of the blocks sampled had a clay-like appearance or clay-like texture. Of these, 6 blocks had liners which were flexible and intact, 5 blocks had penetrometer readings > 4.5, and 7 blocks were grey in color.

Molds Together When Pressed - 17 of the triwalls, one of which was in a metal container, molded together when pressed by hand. Of these, 13 had a liner with an orange discoloration, most of the blocks was slight in moisture to moist, and most were soft to medium in apparent hardness. Only the dust or sand particles would mold when pressed together.

Particles on Top of the Blocks - 18 blocks had loose dust, flakes or sand particles on top of the when opened. Three of these blocks were halfcrates.

11 of the 15 triwalls (73%) had orange liners, 11 of the 15 triwalls were dry or had slight moisture, and 11 of 15 triwalls were medium to very hard.

All three halfcrates had particles on top, had a grey-shade coloring, were dry, hard or very hard, and broke into dust and slabs when sampled. Like all of the halfcrates, the penetrometer readings for all three blocks were > 4.5.

Crust on Top of Block - Three triwalls, one of which was in metal container, and 3 halfcrates had white or yellow salt-like crusts on top of the blocks. The three triwalls all had orange liners, and two out of three were brittle and torn. All three halfcrate had liners which were clear, and two of them were noted to be clear and flexible. Five of the blocks had a grey shade coloring, and the remaining block was white. Five of the blocks were dry or had slight moisture. Four of the blocks were hard or very hard, and none of the blocks were soft. The three halfcrates were produced between 12/90 and 5/91.

VI CONCLUSIONS

The above analyses have tried to indicate possible comparisons between saltcrete blocks to determine what may have been factors in, or evidence of, block stability or failure. An alternate method of analysis would be to identify those characteristics of "good" saltcrete blocks, and then examine which blocks have those characteristics. I identified and prioritized those physical characteristics which I felt would make a "good" pozzolan-based stabilized waste form, with 1 having the highest priority and 7 having the lowest.

1 - Apparent Hardness of Hard or Very Hard A pozzolan-based stabilized waste form which is mixed in the adequate quantities to provide solidification and stabilization should be "hard." All blocks noted as Hard or Very Hard were initially retained.

2 - Dry or having Slight moisture A pozzolan-based stabilized waste form should be fully hydrated without excess moisture. Additionally, NTS acceptance criteria include a maximum free water content. All Hard or Very Hard blocks which were dry or had slight moisture were retained.

3 - The liner should be Flexible and Intact If the liner is brittle or torn open the material can begin to degrade the container it is stored in, resulting in eventual spillage. All Hard or Very Hard blocks which were dry or had little moisture and had brittle or torn liners were discarded.

The remaining blocks are shown in the attached table, Summary of Saltcrete Sampling Observations - Table of Conclusions.

The next items to consider but of lesser importance, and identified in the table by shading, were:

4 - Homogeneity A pozzolan-based stabilized waste form should be homogeneous throughout, meaning crusts, spots, and swirls would be undesirable;

5 - Particulates The NTS acceptance criteria places a limit on the quantity of fines which may be included in a mixed waste package, the maximum allowable limit is actually quite high;

6 - Clay Clay-like material indicates an unsolidified pozzolan-based waste form and is thus undesirable;

7 - Penetrometer readings This is only a relative indicator of the hardness of the top of the block and thus is the lowest indicator.

The Table of Conclusions shows that there were Triwall blocks produced between December 26, 1986 through December 11, 1988 which met the first three "good" block criteria, with no common production dates.

The Table also shows that all but one halfcrate block met the three primary "good" block criteria. This may be due to the fact that the halfcrate liners are merely folded over the waste, allowing easier escape of moisture and a drier, harder waste form. It is also likely that the techniques involved or stabilization formula used to produce the saltcrete halfcrates are what resulted in their apparent successful stabilization.

ATTACHMENTS:
- Summary of Saltcrete Sampling Observations - Table including all blocks sampled
- Summary of Saltcrete Sampling Observations - Table of Conclusions
- Saltcrete Metal Sampling, January 7, 1992 (1 Sheet)
- Saltcrete Triwall Sampling, January 13-16, 1992 (7 Sheet)
- Saltcrete Triwall and Metal Sampling, January 20-21, 1992 (5 Sheet)
- Saltcrete Halfcrate and Metal Sampling, January 27-30, 1992 (5 Sheet)
- Saltcrete Sample Data Sheets, from Sample SC-01408-M through SC-605xx-M

cc: W. C. Henderson/B&R Project File
T. A. Bittner/R. Hiss
L. A. Collins/M. Connell

SUMMARY OF SALTCRETE SAMPLING OBSERVATIONS

BLOCKS 2 through 40, and 42 are in triwall containers

BLOCKS 1, 41, 43, 44, 57 – 60 are in metal containers

BLOCKS 45 through 56 are in wooden halfcrate containers

SAMPING ORDER	BLOCK	ACCUM DATE	OTHER INFO	LINER COND*	PENET. READING	MATERIAL APPEARANCE	COLOR	WETNESS	APPARENT HARDNESS	PARTICLE SIZE	VOIDS	OBSERVATIONS
6	?	--	--	O	>4.5	--	GREY WHT	DRY	HARD	POWDER	NO	--
18	2225	861013	--	OFI	1.0-3.5	--	GREY	SLIGHT	MEDIUM	SAND	NO	MOLDS TOGETHER
21	2237	861223	--	RFI	2.5-4.0	CLAY-LIKE/CRUMBLY	GREY	SLIGHT	MEDIUM	--	NO	AMMONIA SMELL
34	2539	861226	--	CFI	2.0-4.5		GREY	SLIGHT	HARD	MIX	NO	CLAY-LIKE TEXTURE
25	2549	870102	--	O	2.5	WHITE PARTICULATES	TAN/GRN	MOIST	SOFT	SAND	NO	MOLDS TOGETHER, CRUMBLES
20	2585	870202	--	RFI	1.5-2.5	CLAY-LIKE	GREY	MOIST	MEDIUM	DUST-1"	NO	MOLDS TOGETHER FLAKES ON TOP
57	2739	870322	M00661	O	0	FINE PARTICLES	WHITE	DRY	SOFT	SAND	YES	BREAKS EASILY, DOESN'T MOLD
30	2793	870405	--	CFI	>4.5	WHITE HARD	WHITE	--	V. HARD	LARGE	NO	DOES NOT CRUSH, CRUMBLE, MOLD
58	2804	870407	M00661	OBT	2.0->4.5	YELLOW-WHITE CRUST	GREY	DRY	MEDIUM	GRAVEL	NO	SLIGHTLY STICKY
17	2828	870410	--	OFT	0	FINE SAND	GREY WHT	SLIGHT	MEDIUM	MIX	NO	SAND MOLDS TOGETHER, EXPANDED
19	3011	870522	--	OFI	1.0	OFF-YELLOW TOP	WHITE	SLIGHT	MEDIUM	FINE SAND	NO	MOLDS TOGETHER
35	3037	870527	--	CFI	3.0-3.5	DARKER GREY SURFACES	GREY	MOIST	MEDIUM	CHUNKS	NO	CLAY-LIKE TEXTURE
33	3018	870528	--	CFI	4.0-4.5	WHITE SPOTS	GREY	DRY	HARD	MIX	NO	CHUNKS ARE HARD
44	3093	?	M001115	OBT	0	--	GREY-WHT	SLIGHT	SOFT	SAND	NO	MOLDS & CRUMBLES
32	2410	870710	--	OBT	0.5-1.25	DUSTY	TAN	DRY	HARD	--	NO	EXPANDED
27	3125	870710	--	OBT	0	DUSTY	OFF WHT	SLIGHT	SOFT	SAND	NO	EXPANDED MOLDS TOGETHER
22	3137	870710	--	CFI	0	FLOUR-LIKE	WHITE	DRY	SOFT	FINE POWDER	NO	--
60	3226	890712	M00424	OBT	0.25-1.5	FLOUR LIKE	GREY WHT	MOIST	SOFT	FINES	NO	SLIGHTLY STICKY
59	3257	890721	M00424	OBT	0	FINE/SOFT	GREY	DRY	SOFT	SAND	NO	
43	3287	880607	M001115	OBT	0	RUST PARTICLES	BRN-GREY	SLIGHT	SOFT	SAND	NO	MOLDS & CRUMBLES
31	3440	870920	--	CFI	2.5-4.5	SANDY	GREY-WHT	DRY	HARD	SAND	NO	
23	3456	870922	--	CFI	1.5-2.0	FLOUR-LIKE	GREY	MOIST	MEDIUM		NO	CRUMBLES EASILY
8	13524	870928	--	OBI	0-1.5	DUST ON TOP	GREY	SLIGHT	V. HARD	MIX	NO	AMMONIA SMELL, EXPANDED
26	3653	871029	--	CFI	4.0-4.5	PARTICULATES	WHITE	SLIGHT	MEDIUM	SAND/CLAY	NO	STICKY, MOLDS TOGETHER
37	3817	880513	--	OI	1.0-3.5	SANDY SURFACE	GREY	DAMP	HARD	--	--	AMMONIA SMELL
13	3831	880513	--	O	>4.5	PARTICULATES	GREY WHT	--	MEDIUM	SAND/GRAVEL	NO	SAND MOLDS TOGETHER
2	3873	880517	--	O	2.5-4.5	CRUMBLY	GREY	DRY	MEDIUM	SAND	NO	--
4	3874	880517	--	OB	>4.5	PARTICULATES	GREY WHT	MOIST	MEDIUM	SAND	NO	MOLDS TOGETHER
40	3882	880518	--	O	>4.5	DRIED CLAY	GREY	SLIGHT	HARD	--	NO	CAN'T BREAK, CAN'T MOLD, WORK SOFTENS
38	3886	880519	--	OBI	>4.5	AIR BUBBLED	GREY	DAMP	V. HARD	DUST-3"	NO	RING-HARD, DENSE
5	3898	--	--	CFI	>4.5	--	GREY WHT	DRY	HARD	FLAKY	NO	YELLOW SPOTS

DATE / BLOCK #

SUMMARY OF SALTCRETE SAMPLING OBSERVATIONS

BLOCKS 2 through 40, and 42 are in triwall containers

BLOCKS 1, 41, 43, 44, 57 – 60 are in metal containers

BLOCKS 45 through 56 are in wooden halfcrate containers

SAMPING ORDER	BLOCK	ACCUM DATE	OTHER INFO	LINER COND*	PENET. READING	MATERIAL APPEARANCE	COLOR	WETNES	APPARENT HARDNESS	PARTICLE SIZE	VOIDS	OBSERVATIONS
3	3912	880522	--	OB	2.0-4.5	--	GREY WHT	SLIGHT	MEDIUM	SAND	NO	MOLDS SLIGHTLY
14	3937	880620	--	CFI	>4.5	DAMP DENSE CLAY	GREY WHT	MOIST	MEDIUM	SAND-1"	NO	MOLD EASILY, SL. STICKY
9	--	880704	--	OBT	>4.5	WHITE MARBLING	L. GREY	DRY	V. HARD	FLAKY	NO	AMMONIA SMELL, EXPANDED
11	4059	880704	--	O	>4.5	DAMP CLAY	L. GREY	MOIST	MEDIUM	2"	NO	WHITE STREAKS, DOES NOT MOLD
10	4031	880707	--	OB	4.0->4.5	WHITE STREAKS	GREY	SLIGHT	MEDIUM	SAND	NO	SAND MOLDS TOGETHER
24	4084	880707	--	CFI	>4.5	LIKE PUMICE	GREY	DRY	V. HARD	3-4"	YES	VERY SOLID, HOMOGENEOUS
41	4099	870106	IN METAL	RBT	4.0->4.5	PRESSED FINES	L. GREY	DRY	V. HARD	DUST-2"	NO	CRUMBLES
1	4104	880721	M00818	OBT	0	CRUST	GREY	MOIST	HARD	SAND	NO	SALT CRYSTALS ON TOP
29	4160	880805	--	--	1.0-4.5	WHITE PARTICLES	GREY	DRY	HARD	DUST	NO	CRUMBLY
7	4226	880806	--	OBT	2.0-3.5	DUST ON TOP	L. BRN	DRY	HARD	MIX	NO	CRUMBLES EASILY
16	4162	880809	--	OFI	2.0-4.5	--	OFF WHT	DRY	HARD	FIND SAND	NO	MOLDS TOGETHER
15	4174	880817	--	CFI	0	PARTICULATES	BRN-RUST	DRY	MEDIUM	DUST/SAND	NO	MOLDS TO LOOSE BALL
39	4381	881004	--	OB	3.0	BROWN SURFACE	GREY-GRN		MEDIUM		NO	CLAY LIKE - MOLDS
42	4440	881008	--	RB	2.0-3.5	DRY FLAKES ON TOP	GREY	SLIGHT	MEDIUM	2-3"	NO	
12	4436	881010	--	O	>4.5	DAMP CLAY	L. GREY	MOIST	MEDIUM	--	NO	CRUMBLES, MOLDS, SL. STICKY
36	4634	881211	--	OFI	>4.5	WHITE SWIRLS	GREY		HARD	DUST-3"	NO	AMORPHOUS INSIDE
53	HO-776-A-5441	890601	½CRATE	RI	>4.5	FINE PARTICLES	GREY	DRY	HARD	DUST-SLABS	NO	
28	?	890625	--	O	0	SAND/MUD	GREY/TAN	WET	SOFT	FINES	NO	WHITE PARTICLES MOLDS TOGETHER, STICKY
52	776-A-6189	890628	½CRATE	CFI	>4.5	--	GREY	DRY	V. HARD	DUST-CHUNKS	NO	CAN'T BREAK/CRUMBLY
45	804-776-A-5560	890629	½CRATE	CFI	>4.5	DUSTY	GREY	DRY	V. HARD	DUST-SLABS	NO	WORK SOFTENS
46	748-00032	891215	½CRATE	--	>4.5	WORK DARKENS	GREY	DRY	V. HARD	DUST-SLABS	NO	CAN'T BREAK, CAN'T MOLD
50	H00198	?	½CRATE	CFI	>4.5	CHIPS/CLAY-LIKE	GREY	DRY	V. HARD	1-5"	NO	
47	H00264	900408	½CRATE	--	>4.5	MOSTLY FINES	BRN-GREY	DRY	V. HARD	DUST-SLABS	NO	CAN'T BREAK
54	H00277	900409	½CRATE	CFI	>4.5	--	GREY	DRY	MEDIUM	SAND	NO	CRUMBLES
49	H03202	?	½CRATE	CFI	>4.5	--	L. GREY	DRY	V. HARD	1-5"	NO	
56	H03211	901218	½CRATE	CFI	>4.5	1/16" WHITE CRUST	GREY	DRY	V. HARD	--	NO	THIN SLATE-LIKE CHIPS
48	H03453	910405	½CRATE	C	>4.5	WHITE CRUST	D. GREY	DRY	V. HARD	MIX	NO	PUMICE 1/8" HOLES, WORK SOFTENS
55	H03509	910509	½CRATE	CFI	>4.5	1/4" WHITE CRUST	GREY	DRY	V. HARD	CHIPS	NO	POROUS, PUMICE
51	748-00466	910930	½CRATE	--	>4.5	NOT DUSTY	GREY	DRY	V. HARD	LARGE CHIPS	--	CAN'T BREAK

DATE/BLOCK#

SUMMARY OF SALTCRETE SAMPLING OBSERVATIONS

TABLE OF CONCLUSIONS

SAMPING ORDER	BLOCK	ACCUM DATE	OTHER INFO	LINER COND*	PENET. READING	MATERIAL APPEARANCE	COLOR	WETNESS	APPARENT HARDNESS	PARTICLE SIZE	VOIDS	OBSERVATIONS
34	2539	861226	--	CFI	2.0-4.5		GREY	SLIGHT	HARD	MIX	NO	CLAY-LIKE TEXTURE
30	2793	870405	--	CFI	>4.5	WHITE HARD	WHITE	--	V. HARD	LARGE	NO	DOES NOT CRUSH, CRUMBLE, MOLD
33	3018	870528	--	CFI	4.0-4.5	WHITE SPOTS	GREY	DRY	HARD	MIX	NO	CHUNKS ARE HARD
31	3440	870920	--	CFI	2.5-4.5	SANDY	GREY-WHT	DRY	HARD	SAND	NO	
40	3882	880518	--	O	>4.5	DRIED CLAY	GREY	SLIGHT	HARD	--	NO	CAN'T BREAK, CAN'T MOLD, WORK SOFTENS
5	3898	--	--	CFI	>4.5	--	GREY WHT	DRY	HARD	FLAKY	NO	YELLOW SPOTS
24	4084	880707	--	CFI	>4.5	LIKE PUMICE	GREY	DRY	V. HARD	3-4"	YES	VERY SOLID, HOMOGENEOUS
29	4160	880805	--	--	1.0-4.5	WHITE PARTICLES	GREY	DRY	HARD	DUST	NO	CRUMBLY
16	4162	880809	--	OFI	2.0-4.5	--	OFF WHT	DRY	HARD	FINDSAND	NO	MOLDS TOGETHER
36	4634	881211	--	OFI	>4.5	WHITE SWIRLS	GREY		HARD	DUST-3"	NO	AMORPHOUS INSIDE
6	?	--	--	O	>4.5	--	GREY WHT	DRY	HARD	POWDER	NO	--
53	HO-776-A-5441	890601	½CRATE	RI	>4.5	FINE PARTICLES	GREY	DRY	HARD	DUST-SLABS	NO	
52	776-A-6189	890628	½CRATE	CFI	>4.5	--	GREY	DRY	V. HARD	DUST-CHUNKS	NO	CAN'T BREAK/CRUMBLY
45	804-776-A-5560	890629	½CRATE	CFI	>4.5	DUSTY	GREY	DRY	V. HARD	DUST-SLABS	NO	WORK SOFTENS
46	748-00032	891215	½CRATE	--	>4.5	WORK DARKENS	GREY	DRY	V. HARD	DUST-SLABS	NO	CAN'T BREAK, CAN'T MOLD
47	H00264	900408	½CRATE	--	>4.5	MOSTLY FINES	BRN-GREY	DRY	V. HARD	DUST-SLABS	NO	CAN'T BREAK
56	H03211	901218	½CRATE	CFI	>4.5	1/16" WHITE CRUST	GREY	DRY	V. HARD	--	NO	THIN SLATE-LIKE CHIPS
48	H03453	910405	½CRATE	C	>4.5	WHITE CRUST	D. GREY	DRY	V. HARD	MIX	NO	PUMICE 1/8" HOLES, WORK SOFTENS
55	H03509	910509	½CRATE	CFI	>4.5	1/4" WHITE CRUST	GREY	DRY	V. HARD	CHIPS	NO	POROUS, PUMICE
51	748-00466	910930	½CRATE	--	>4.5	NOT DUSTY	GREY	DRY	V. HARD	LARGE CHIPS	--	CAN'T BREAK
49	H03202	?	½CRATE	CFI	>4.5	--	L. GREY	DRY	V. HARD	1-5"	NO	
50	H00198	?	½CRATE	CFI	>4.5	CHIPS/CLAY-LIKE	GREY	DRY	V. HARD	1-5"	NO	

SALTCRETE METAL SAMPLING
January 7, 1992

1. Triwall # 04104 (HNUS # SC-01408-M) Dated 7/21/88 Taken from Metal M00818

- The PVC bag is discolored light orange to orange. It is brittle and broken.

- The top of the saltcrete block is grey-cream colored with white swirls and yellow patches.
- The grey cream areas are soft, penetrometer reading of zero.
- The white swirls are only a crust on top of the soft grey-cream material with a penetrometer reading of >4.5. The crust is only about 1/16" thick and can be peeled back. Close examination shows clear square salt crystals adhered to an off-color smooth surface.
- The yellow patches show a penetrometer reading of >4.5

- The undisturbed sample was taken using a Shelby tube and had to be pounded in using a large sledge hammer (very hard) and removed using a forklift.
- The core hole is smooth and a medium grey color, with no free liquid.

- The jar samples were taken using a small shovel.
- The top is a hard crust which the shovel cuts through easily. The crust is grey-white, and crumbles easily.
- A lump approximately 1" in size was observed, but all lumps seemed to crumble easily when squeezed.
- While the sample appears dry and dusty, it seems to still contain some moisture.
- The material feels slick, not gritty.
- Sample was taken to about 12" deep and all of the material looked very consistent.
- When the material is crumbled it is light grey to white and dry in appearance.
- When the material is cut it discolors to a medium grey color and looks slightly moist.

- When a handful of fines are squeezed they hold together as one mass.
- When a handful of fines are scattered they fall readily and do not dust.

SALTCRETE TRIWALL SAMPLING
January 13-16, 1992

2. Triwall # 03873 (HNUS # SC-02408-T) Dated 5/17/88

- The liner is clear with some orange discoloration on one side, and has no tears or breakage.
- The material on top is crumbly, dry, and does not stick to the liner.
- Penetrometer readings: 2.5, 4.5, 4.5, 4.5, 4.5.
- The Shelby tube was hammered in with a small sledgehammer, the forklift was used to pull it out.
- The Shelby tube removed cleanly. The hole was smooth with no voids, no rocks, and no free liquid.
- When squeezed, the material shatters into dusty, small particulates.
- The material was sampled using a chisel and rubber mallet.
- The material is grey and does not stick together.

3. Triwall #03912 (HNUS # SC-03408-T) Dated 5/22/88

- Most of liner is in good condition with some orange discoloration and cracked areas.
- Very little material is adhering to liner.
- The material is grey-off white.
- Penetrometer readings: Center >4.5, Corners 2.0, 2.5, 2.5, 4.0.
- The Shelby tube was hammered in using the large sledgehammer, and a hammer and chisel were used to take the remaining sample.
- The Shelby tube went all the way to the bottom of the block. The hole is smooth all the way to the bottom, with no voids and no free liquid.
- The material presses into a ball, but then with additional pressure breaks back into sand size granules.

4. Triwall #03874 (HNUS # SC-04408-T) Dated 5/17/88

- The liner is visibly orange and yellow, and very rigid. It is cracked in various places and some dry material is lightly adhered to the liner.
- The material is grey-off white.
- There is some particulates on top of the block.
- Penetrometer readings: All > 4.5.
- A small sledgehammer was used to push the Shelby tube all the way to the bottom of the block. The bottom 2 to 3 inches of sample fell out of the block during removal. The hole is smooth with no voids and no free water.
- The material can be easily ground to a medium-sized sand texture.
- With pressure, the material molds together and exhibits some moisture.
- The material is not sticky.

5. Triwall #03898 (HNUS # SC-05410-T) No date

- The liner is clear, flexible, and has no tears.
- The material on top of the block is grey-off white.
- Penetrometer readings: All > 4.5.
- The Shelby tube could only be pounded in ¼ of the way. The hole is smooth with no voids and no free liquid.
- The material is grey-white, dry and flaky, and has some yellow spots.

6. **Triwall # ? (HNUS # SC-06410-T) No date**
   - The liner is mostly clear with some orange discolored areas.
   - Penetrometer readings: All > 4.5.
   - The Shelby tube could only be pounded in about 9" using both the sledgehammer and dropping the forklift forks on it. The hole has no voids and no free water.
   - The material is a white-grey dry powder.

7. **Triwall #04226 (HNUS # SC-07408-T) Dated 8/6/88**
   - The liner is orange where in contact with the material. The liner is stiff and breaks easily. No material is stuck to it. There is a fine dust on top of the triwall.
   - Penetrometer readings: 3.5, 2.0, 3.0, 3.0, 2.5.
   - The Shelby tube pushed in ¼ of the way using the fork truck and was hammered in to ¾ of the way (total) using the sledgehammer. The tube was removed using the forklift. The hole is smooth with no voids, no rocks, and no free liquid.
   - The material is light brown and crumbles easily, but individual particles are dry and hard.

8. **Triwall #13524 (HNUS # SC-08408-T) Dated 9/28/87**
   - The box is bulged, but not broken open.
   - The liner is orange and stiff, but does not tear. Some material is on the liner, but is dry and readily falls off.
   - There is a strong ammonia smell.
   - Penetrometer readings: 1.5, 0, 1.0, 1.5, 1.5.
   - The Shelby tube was hammered ⅔ of the way into the block. The block is very hard. The hole is smooth with no voids, no rocks, and no free liquid.
   - A chisel and shovel were used for the remaining sampling.
   - The material is grey, crumbles into a powder with pressure, and shows a slight sticking together.

9. **Triwall # ? (HNUS # SC-09408-T) Dated 7/4/88**
   - The box is split open on one corner.
   - The liner is orange, with no tears except on the split corner. The material is not adhered to the liner.
   - The triwall top is light grey marbled with white streaks.
   - There is a strong ammonia smell.
   - Penetrometer readings: All > 4.5.
   - The Shelby tube was hammered into the triwall about ⅔ of the way - very hard. The hole is smooth with no voids, no rocks, and no free liquid.
   - The material is light grey, dry, and flaky, crumbles with pressure, and does not stick together. The material feels gritty.

10. **Triwall #04031 (HNUS # SC-10408-T) Dated 7/7/88**
    - The liner is orange and brittle with very little material stuck to it. Some dry flakes are on top of the triwall.
    - The triwall is grey with white streaks.
    - Penetrometer readings: Center 4.0, Corners: 4.5, 4.5, >4.5, >4.5.
    - The Shelby tube was pounded into the block using a sledgehammer. The hole is smooth with no voids and no free liquid.

10. **Triwall #04031 (HNUS # SC-10408-T) Dated 7/7/88, continued**
    - When large particles are squeezed together they do not crumble nor mold together. However, when the sandy-looking material was squeezed it molded into a ball.
    - Most of the sample was coarse-sand size.

11. **Triwall #04059 (HNUS # SC-11408-T) Dated 7/4/88**
    - The liner is orange to dark orange in color, with no tears and very little material stuck to it.
    - The top of the block is light grey with white streaks, and has some dry particulates.
    - Penetrometer readings: All > 4.5
    - The Shelby tube was inserted using a sledgehammer. The hole is smooth, but looks damp, like wet clay, with no voids and no free liquid.
    - The material breaks into palm sized pieces which do not mold back together with pressure.

12. **Triwall #04436 (HNUS # SC-12408-T) Dated 10/10/88**
    - The liner is orange with dark orange, almost black, spots.
    - The top of the block is light grey with small paper-like flakes.
    - Penetrometer readings: All > 5.
    - The Shelby tube was inserted using a sledgehammer and the forklift was used to remove it. The tube went completely through block. The hole looks like slippery damp clay, with no voids and no free liquid.
    - The material easily crumbles, but molds together when squeezed. The particles have clay like properties, and the material is slightly sticky.

13. **Triwall #03831 (HNUS # SC-13408-T) Dated 5/13/88**
    - The liner is in good condition with some orange-yellow areas. A dusty material is adhered to the liner.
    - The top of the block is white with light grey splotches, and has some loose particulates.
    - Penetrometer readings: All > 4.5.
    - The Shelby tube was inserted all the way through the block using a sledgehammer. The hole has no voids and no free liquid.
    - The material breaks into a medium-sized sand and pea gravel.
    - The large pieces do not press together when squeezed.
    - The sand holds together when squeezed and acts like a heavy, wet clay.
    - The sledgehammer broke off the handle of Shelby tube when pushing it into the triwall.

14. **Triwall #03937 (HNUS # SC-14408-T) Dated 6/20/88**
    - The liner is yellowing, but in good shape, with some dusty material adhered to it.
    - The top of the block is off-white with some light grey areas. Looks like a slightly damp dense clay.
    - Penetrometer readings: All 4.5.
    - The Shelby tube was inserted using a sledgehammer. The hole is smooth and slightly damp, with no voids and no free water.
    - The material easily presses together and is slightly sticky.
    - The particles range from medium sand, to pea gravel (predominant) to golf ball size.

15. **Triwall #04174 (HNUS # SC-15408-T) Dated 8/17/88**
- The liner is in good condition with some particulates stuck to it.
- The top of the block is a brown/rust color, with dry particulates scattered everywhere.
- Penetrometer readings: All 0.
- The Shelby tube was inserted with a sledgehammer. The material is dry and has no free liquid.
- The material is like a medium to fine sand and can be pressed together into a loose ball.

16. **Triwall #04162 (HNUS # SC-16408-T) Dated 8/9/88**
- The liner is in good condition and flexible, with some orange spots.
- The top of the block is white and off-white (yellowish) and dusty.
- Penetrometer readings: Center 4.5, corners 2.0, 3.0, 3.5, 4.0.
- The Shelby tube was inserted with difficulty, using a sledgehammer. The hole is smooth with no voids and no free water.
- The particles easily crumble to a fine sand which feels gritty and dry.
- The material does press together into a ball.

17. **Triwall #02828 (HNUS # SC-17408-T) Dated 4/10/87**
- The liner is yellow orange, stiff, but not brittle. There are splits in the liner apparently due to the block expanding.
- The top of the block looks like white/grey fine sand.
- Penetrometer readings: All 0 (soft fine sand).
- The Shelby tube was inserted using the sledgehammer. The hole was smooth and damp looking with no voids and no free liquid.
- The larger pieces would not squeeze together, but the fine sand pressed easily into a ball.

18. **Triwall #02225 (HNUS # SC-185XX-T) Dated 10/13/86**
- The liner was slightly orange/yellow, and overall in good shape with some dusty material stuck to it.
- The top of the block is grey.
- Penetrometer readings: Center 3.5, corners 1.0, 3.0, 1.5, 1.0.
- The Shelby tube was inserted with the sledgehammer. The hole is smooth and clean with no voids and no free liquid.
- Particles are medium to fine sand-size and press together into a ball. It is not very sticky.

19. **Triwall #03011 (HNUS # SC-195XX-T) Dated 5/22/87**
- The liner is yellowing, but is in good shape with some particulates stuck to it.
- The top of the block is white to off-yellow and looks like fine beach sand.
- Penetrometer readings: All 1.0.
- The Shelby tube was inserted with a sledgehammer. The hole is smooth with no voids and no free liquid.
- The material breaks apart easily, while still sticking together like damp sand.

20. Triwall #02585 (HNUS # SC-205XX-T) Dated 2/2/87

- The liner is rust colored on the inside and is semi opaque. A thin layer of flaky dried material is stuck on liner. Water is present on the outside of the liner.
- The top of the block looks grey, clay-like and semi-plastic.
- There is a strong ammonia odor.
- Penetrometer readings: 2.0, 2.0, 2.0, 1.5, 1.75.
- The Shelby tube was inserted using a sledgehammer and forklift. The hole is smooth with no stratification, no voids, and no free water.
- The material is workable and sticks together, but is not messy, dry, or dusty.
- The material crumbles into approximately 1 inch pieces and is slightly sticky.

21. Triwall #02237 (HNUS # SC-215XX-T) Dated 12/23/86

- The liner is intact and rust colored on the inside. There are no liquids on the outside of the liner.
- The top of the block is a greyish color.
- There is a strong ammonia odor.
- Penetrometer readings: 2.5, 2.5, 3.0, 3.0, 4.0.
- The Shelby tube was inserted and removed using the forklift. The hole is smooth with no voids and no free liquid.
- The material is clay-like, yet semi-dry and crumbly. It is not sticky, gritty, hard, or sandy.

22. Triwall #03137 (HNUS # SC-225XX-T) Dated 7/10/87

- The liner is clear and clean with nothing adhered to it.
- The top of the block is off-white and the material on top is fine, dry and dusty, with a soft-flour-like texture.
- Penetrometer readings: All 0.
- The forklift was used to insert and remove the Shelby tube. The hole collapsed when the tube was removed, but no voids and no free water were apparent.
- The material is a white, fine, soft powder.

23. Triwall #03456 (HNUS # SC-23408-T) Dated 9/22/87

- The liner is intact, clear, and no material is stuck to it.
- The top of the block is grey.
- Penetrometer readings: 1.5, 1.5, 1.5, 2.0, 1.75.
- The Shelby tube was inserted using the forklift and a sledgehammer. The hole is smooth and homogeneous and has no voids and no free liquid.
- The material is a grey, soft powder, like flour, but semi-damp, and crumbles easily.

24. Triwall #04084 (HNUS # SC-24408-T) Dated 7/7/88

- The liner is intact with a clear, flaky-hard residue adhered to it.
- The top of the block is grey, very hard, and looks like pumice.
- Penetrometer readings: All > 4.5.
- The Shelby tube sample could not be taken - too hard, the tube bent.
- Used a hammer and chisel to sample in 3 to 4" thick ridges.
- The material is very solid, very hard, homogeneous, and cannot be crumbled or broken by hand.
- No free water was apparent.

25. **Triwall #02549 (HNUS # SC-25408-T) Dated 1/2/87**

- The liner is orange-yellow with some particles adhered to it.
- The top of the block is a tan/green color with a sandy texture and white particulates.
- Penetrometer readings: All 2.5.
- The Shelby tube went all the way to the bottom of the triwall. The hole is smooth and wet in appearance with no voids and no free liquid.
- The material crumbles, but is easily pressed together. Overall the material is damp.

26. **Triwall #03653 (HNUS # SC-26408-T) Dated 10/29/87**

- The liner is slightly yellowed, but in good condition, with material adhered to it.
- The top of the block is white with loose particulates.
- Penetrometer readings: center: 4.0, corners 4.5, 4.5, >4.5, 4.5.
- The Shelby tube sample was taken and the hole showed no voids and no free liquid, but the walls looked damp.
- The material presses easily together and is sticky. Used a hammer and chisel to take the sample.
- The material is like both a sand and a hard dense clay.

27. **Triwall #03125 (HNUS # SC-275XX-T) Dated 7/10/87**

- The liner is orange and split in various areas.
- The block seems to have expanded considerably.
- The top of the block is white/off-white, and dusty.
- Penetrometer readings: All 0.
- The Shelby tube sample was taken easily, and the remaining sample scooped out with shovels. The hole looks like sand, but with no large voids and no free water.
- The material is very sandy and soft, and presses easily together.

28. **Triwall # ? (HNUS # SC-285XX-T) Dated 6/25/89**

- The liner is orange.
- The top of the block is white, like soft sand.
- Penetrometer readings: All 0.
- The Shelby tube sample was taken by hand. The hole is smooth, with no voids and no free liquid.
- The interior of the block is grey/tan, and looks like a mushy mud/clay.
- The material presses together easily and is very sticky.

29. **Triwall #04160 (HNUS # SC-29408-T) Dated 8/5/88**

- The top of the block is light grey with white particulates.
- Penetrometer readings: 4.5, corners: 3.5, 2.0, 1.0, 2.5.
- The Shelby tube was difficult to insert. The hole is smooth and dry, with no voids and no free liquid.
- The material is light grey, crumbly, and presses together only momentarily.
- Overall, it is dry and dusty, not sticky.

30. **Triwall #02793 (HNUS # SC-30408-T) Dated 4/5/87**

- The liner is slightly yellowed, and intact.
- The top of the block is white and rock hard.
- Penetrometer readings: All > 4.5.
- Only a single Shelby tube sample could be taken (a second was tried and failed due to the block being too hard). The hole has no voids and no free liquid.
- A hammer and chisel were used to take the remaining sample.
- The pieces do not crush, crumble, or mold together.
- The material is white and very hard.

SALTCRETE TRIWALL AND METAL SAMPLING
January 20-21, 1992

31. Triwall #3440 (HNUS # SC-31XXX-T) Dated 9/20/87

- The liner was in good condition, with no tears.
- The top of the block was light grey, dry, dusty and was covered with dry flaky particles.

- Penetrometer Readings: 4.5, 4.5, 4.0, 2.5, 4.0.
- The Shelby tube was inserted using a forktruck to a depth of 4 inches and a sledgehammer to a depth of 1½ feet.
- The sides of the Shelby tube hole had no voids, and smooth walls.
- The remaining sample was taken using a hammer and chisel. As the material broke away from the block it became quite sandy.
- The sample had to be taken from the total exposed surface, and only went about 6 inches deep.
- The material was not sticky and some areas were more white in color than light grey. Some larger pieces were collected, but these crumbled with handling.

32. Triwall #2410 (HNUS # SC-325XX-T) Dated 7/10/87

- The liner was in poor condition with many tears due to expansion of the triwall.
- The top was light brown to tan in color, with a dry flaky material on top.

- Penetrometer Readings: 1.0, 0.5, 1.25, 0.75, 0.
- The forktruck was used to force the Shelby tube into the triwall, about 1½ feet. The sides of the Shelby tube hole had no voids and the walls were smooth.
- The sample was collected from the exposed surface to a depth of about 6 inches using a hammer and chisel.
- The material is tan, dry, dusty, and not sticky.

33. Triwall #3018 (HNUS # SC-33XXX-T) Dated 5/28/87

- The liner was in good condition with some flakes of material stuck to it.

- Penetrometer Readings: 4.5, 4.5, 4.5, 4.0, 4.0
- The forktruck was used to force the Shelby tube into the triwall about 6 inches, and a sledgehammer was used to pound the Shelby tube to a total depth of 1½ feet.
- The sides of the Shelby tube hole were smooth and looked slightly glazed, with no voids and no free liquid.
- A hammer and chisel were used to take the remaining sample.
- The material broke off in large chunks which could be crushed by hand into smaller chunks (not dust).
- The material was light grey with some white spots, dry and dusty, and a mixture of chunks, sand, and dust.

34. **Triwall #02539 (HNUS # SC-34XXX-T) Dated 12/26/86**

- The liner was in good condition, with no tears and no discoloration of the inside.
- No material was adhered to the inside of the liner, while some of the cardboard was adhered to the outside of the liner.

- Penetrometer Readings: 4.5, 2.75, 3.0, 2.0, 3.0.
- The forktruck was used to force the Shelby tube into the triwall to a depth of approximately 1½ feet.
- The sides of the Shelby tube hole were smooth with no voids and no free liquid.
- A chisel was used to take the remaining sample, breaking the material into chunks. These chunks can be broken into two pieces by hand, but cannot be crushed. The bulk sample was taken to a depth of about 6 inches.
- The material was grey in color, and while appearing dry, had more moisture in it than the previous samples, giving it a clay-like texture.

35. **Triwall #3037 (HNUS # SC-355XX-T) Dated 5/27/87**

- The liner was in good condition, with no tears and no discoloration.
- The bag was not stuck to the liner, and no material flakes were stuck to the liner.
- There was some fading of the cardboard to the outside of the liner.

- Penetrometer Readings: 3.5, 3.0, 3.0, 3.0, 3.0.
- The forktruck was used to push the Shelby tube into the triwall to a depth of approximately 1½ feet.
- The sides of the Shelby tube hole were smooth with no voids and no free liquid, and had a darker grey color than the top of the block.
- The remaining sample was taken using a chisel and spoons to a depth of 6-8 inches.
- The material collected was large chunks with some small particles.
- The material was grey in color, and a darker grey on the worked surfaces.
- The material was dry but has more moisture than the previous sample, giving it a clay-like texture.

36. **Triwall #4634 (HNUS # SC-36408-T) Dated 12/11/88**

- The liner was in good condition, and while not discolored at the top of the triwall, it had orange discoloration at the sides.
- The top of the block was grey with white swirls.
- The material at the top of the block appears dry and crusty, but was not dusty and is brittle.

- Penetrometer Readings: All > 4.5
- The sledgehammer was used to drive the Shelby tube into the triwall.
- The sides of the Shelby tube hole were smooth with no voids and no free liquid.
- The remaining sample was taken using a hammer and chisel.
- The material was hard, and was chipped off the block creating both fines and 3 inch slabs.
- The material was difficult to break, but was easily chopped up using the chisel (time consuming).
- While the top of the block had a dry crust, the inside had a partially grainy-partially amorphous appearance.

37. Triwall #3817 (HNUS # SC-37408-T) Dated 5/13/88

- The liner had an orange discoloration where in contact with the block.
- The top of the block was grey with a sandy surface appearance, looking like a beach, with the middle smooth in appearance and the edges dry.

- Penetrometer Readings: 3.5, 2.0, 1.0, 1.5, 2.0.
- The sledgehammer was used to drive the Shelby tube into the triwall, and went through the first 4 inches easily and the rest of the way with great difficulty. It was even harder to remove the Shelby tube.
- The sides of the Shelby tube hole were very smooth and dark grey.
- The hammer and chisel were used to take the remaining sample.
- The material pressed together when squeezed, but easily fell apart.
- The material was damp, not dusty, and did not feel really gritty like sand.
- About 8 inches in the triwall a strong ammonia smell was released.
- The duplicate sample was taken from this block.
- The label stated a gross weight of 1675 pounds.

38. Triwall #3886 (HNUS # SC-38408-T) Dated 5/19/88

- The liner was intact, but was orange, brittle, and stiff where in contact with the triwall.
- The top of the block was white and grey and had particulates spread across it.
- The top was very hard and has air-bubble-like voids across the surface.

- Penetrometer Readings: All > 4.5
- It was very difficult to insert the Shelby tube into the triwall, and during removal the entire block lifted off the pallet before the tube released.
- The hammer and chisel were initially ineffective in sampling as the chisel could be pounded into the block but the material would not shatter. The hammer and chisel were used to break/scrape material off the top.
- The material ranged from fines to 3 inch slabs.
- The material from the top of the triwall was dry and dusty while that from the inside was more of an amorphous damp cement.
- No voids and no free liquid were observed.
- When struck together, the larger pieces would "ring" like hard, dense, rocks.

39. Triwall #4381 (HNUS # SC-39408-T) Dated 10/4/88

- The liner was orange and stiff where in contact with the block.
- The material on the top of the block was light brown, and the material underneath it was dark brown.

- Penetrometer Readings: All 3.0
- The Shelby tube went easily all the way to the bottom of the triwall using the sledgehammer.
- The sides of the Shelby tube hole were smooth with no voids and no free liquid. The liner at the bottom of the block is also orange.
- The remaining sample was taken by digging it out of the block with the chisel.
- The material was grey-green in color with some light colored particulates.
- The material from the inside of the block had a stiff clay-like consistency which squeezed easily together and held shape.

40. Triwall #3882 (HNUS #SC-40408-T) Dated 5/18/88

- The liner was orange where in contact with the block.
- The top of the triwall was damp looking but very hard, like a partially dried clay.

- Penetrometer Readings: All > 4.5.
- The Shelby tube drove in with difficulty using the sledgehammer, but only about 12 inches of sample would stay in the tube.
- No voids and no free liquid were apparent in the Shelby tube hole.
- The drill was tried in order to obtain sample from the center of the block but the material only coated the drill bit and looked soft and gooey.
- The material that was sampled using the hammer and chisel was grey, impossible to break, and does not mold together when squeezed.

41. Triwall #4099 (HNUS # SC-41408-M) Dated 1/6/87

- This triwall was in a metal container.
- The side of the triwall was sampled - not the top.
- The liner was discolored to a red brown, was very brittle, and broke when cut away from the block. The pieces of liner pulled easily and cleanly away from the block.

- Penetrometer Readings: 4.0, > 4.5, > 4.5, > 4.5, > 4.5.
- It required a great deal of force to insert the Shelby tube into the block.
- The sides of the Shelby tube hole showed no voids and no free liquids.
- The hammer and chisel were used to break up the material and a shovel was used to scoop it out of the block.
- The material broke into 1 to 2 inch pieces and fine particulate.
- The material was light grey and while very hard, it was like fines pressed to a high density, which could be crumbled apart.

42. Triwall #4440 (HNUS # SC-424XX-T) Dated 10/8/88

- The liner was clear and pliable at the top, but became brittle and rust colored near and at the block surface.
- The material did not stick to the liner and some dry flakes fell off the liner when handled.

- Penetrometer Readings: 3.0, 3.0, 2.0, 3.5, 3.5.
- The forktruck was used to push the Shelby tube all the way to the bottom of the block.
- The sides of the Shelby tube hole were smooth with no voids and no free liquid.
- The chisel (no hammer) and shovel were used to take the remaining sample.
- The material scooped easily and broke into 2 to 3 inch pieces.
- The material was a medium grey and slightly damp.

43. Triwall #3287 (HNUS # SC-435XX-T) Dated 6/7/88

- This triwall was in metal container M001115.
- The liner was dark orange and cracked.
- The top of the block was light brown with rust colored particulates.

- Penetrometer Readings: All zero.
- The sledgehammer was used to easily push the Shelby tube into the block.
- Spoons were used to take the remaining sample.
- The material varied between light brown and grey and had a sandy texture. The material was dry in appearance.
- The material could be pressed together, but crumbled easily.
- No voids and no free liquid were observed.
- This block was also used for the duplicate sample.

44. Triwall #3093 (HNUS # SC-445XX-T) Not Dated

- This triwall was in metal container M001115.
- The liner was dark orange and visibly cracked.

- Penetrometer Readings: All zero.
- The Shelby tube was easily pushed into the triwall.
- The remaining sample was taken using the spoons.
- The material was a light grey to white, dry, sandy particulate.
- The material pressed together, but crumbled easily.
- No voids and no free liquid were observed.

SALTCRETE HALFCRATE AND METAL SAMPLING
January 27-30, 1992

45. Halfcrate # PC 804-776-A-5560 (HUNS # SC-455XX-H) Dated 6/29/89

- EG&G carpenters cut a 2'x2' hole in the top of the halfcrate.
- The liner looked okay, the top of the block was grey.

- Penetrometer Readings: All > 4.5.
- The triwall was too hard to push the Shelby tube into it. All sampling was done using a hammer and chisel.
- The material cme off in either slabs or fines.
- There was no free water and the material was very dry and dusty.
- The block appeared to get harder the deeper the sample.
- Sample was taken from as deep as 10 inches (22 inch total thickness).
- The drill was tried for sampling, and the shavings were wet enough to easily mold together. This may have been due to sample compression squeezing the water out. The hammer and chisel were used to the same depth, and the material was dry.
- No voids were apparent.

46. Halfcrate # 748-00032 (HNUS # SC-465XX-H) Dated 12/15/89

- Also written on the label was: Drum # H00110, Waste Stream 09140, Bldg. 374.

- Penetrometer Readings: All > 4.5.
- The Shelby tube could only be driven in about 8 inches. The sides of the hole were very smooth, medium and dark grey in color, with no voids and no free liquid. Some fines were observed in the bottom. The Shelby tube sample was not kept.
- All samples were taken using the hammer and chisel.
- The material came off the triwall in thick slabs and fines.
- The material was light grey and dry inside the block, and hard to a depth of at least 6 to 8 inches.
- The larger pieces could not be broken by hand, and did not ring when struck together.
- No voids and no free liquid were apparent.

47. Halfcrate # H00264 (HNUS # SC-475XX-H) Dated 4/8/90

- Penetrometer Readings: All > 4.5.
- The block was too hard to sample using the Shelby tube. All samples were taken using the hammer and chisel.
- The material tended to dust or slab when chiseled.
- The material was a light brown to grey in color and the sample was primarily fines.
- The larger pieces could not be broken by hand, and sound solid, but do not ring when struck together.
- The halfcrate was sampled to a depth of 6 inches and no voids and no free liquid were observed.

48. Halfcrate # H03453 (HNUS # SC-485XX-H) Dated 4/5/91

- The liner had no discoloration.
- The top of the block was a white crust with dark grey material underneath.
- The dark grey material looked like pumice with holes up to 1/8 inch diameter.

- Penetrometer Readings: All > 4.5.
- The Shelby tube could not be used as the top was too hard.
- The drill was tried to a depth of about 10 inches, but the shaving produced were very wet and almost slowed the drill to a standstill.
- The hammer and chisel were used to take all of the sample.
- When broken, the exposed surface looked dark grey which changed to a lighter grey within a few minutes.
- The block had primarily smooth faces inside with some small voids, like the top. No free liquid was observed.
- The sample was a 50/50 mixture of fines and coarse material.
- The large pieces do not "ring" when struck together.

49. Halfcrate # H03202 (HNUS # SC-495XX-H) Not Dated

- The liner was clear and in good condition. The material was not stuck to it.

- Penetrometer Readings: All > 4.5.
- All samples were taken using a hammer and chisel.
- The material was light grey in color and came off the block in 1 to 5 inch chips.
- The material was dry and no voids and no free liquid were observed.

50. Halfcrate # H00198 (HNUS # SC-505XX-H) Not Dated

- The liner was clear and in good condition.

- Penetrometer Readings: All > 4.5.
- A hammer and chisel were used to take all of the samples.
- The material broke into 1 to 5 inch chips which scattered when struck with the chisel.
- The material was grey and varied from dry hard chips to a clay-like material which could be crumbled.
- No voids and no free liquid were observed.

51. Halfcrate # 748-00466 (HNUS # SC-515XX-H) Dated 9/30/91

- Penetrometer Readings: All > 4.5.
- All samples were taken using a hammer and chisel.
- The block was very hard requiring a lot of force to chip off the samples.
- The material shattered fairly cleanly creating very little dust.
- The material was grey in color, dry, very hard and broke into large chips.
- The material could not be broken by hand and was not sticky nor flowable.

52. Halfcrate #776-A-6189 (HNUS # SC-525XX-H) Dated 6/28/89

- The liner was in good condition with no cracks.

- Penetrometer Readings: All > 4.5.
- All sampling was performed using a hammer and chisel, and alot of force was used.
- The material was grey and dry, and while very hard to break, some of the pieces were crumbly.
- The material broke into large chunks and a fine dust.
- No voids and no free liquid were observed.

53. Halfcrate # HO-776-A-5441 (HNUS # SC-535XX-H) Dated 6/1/89

- The liner had a reddish discoloration, but was intact.
- No material was stuck to the liner, but it was covered with fine particles.

- Penetrometer Readings: All > 4.5.
- All samples were taken using a hammer and chisel, and required moderate force.
- The material tended to shatter off of the block in big pieces.
- The material was grey, dry, very hard and broke into large pieces and fines.
- No voids and no free liquid were observed.

54. Halfcrate # H00277 (HNUS # SC-545XX-H) Dated 4/9/90

- The liner was clear, intact, and clean except for particulate dust.
- The block was grey, hard and dry.

- Penetrometer Readings: All > 4.5.
- Samples were taken using a Shelby tube, and hammer and chisel. It did not require much force to sample the block.
- The material was grey and dry, and crumbled easily to produce small fines. No large pieces were produced in sampling.

55. Halfcrate # H03509 (HNUS # SC-555XX-H) Dated 5/9/91

- The liner looked clear and intact, with no material stuck to it.
- The top of the block was covered with a 1/4" thick white crust. Underneath the crust the material was grey.

- Penetrometer Readings: All > 4.5.
- The samples were taken using the hammer and chisel, and drill.
- It required a great deal of force to chip pieces off of the block, "like breaking up a sidewalk with a toothpick".
- The material breaks into pieces about 3 inches across and 1 inch thick. The chisel would not score the material easily.
- The chips were grey, dry, and porous, like pumice.
- The material did not press together when squeezed, but the larger pieces could be broken by hand.
- No free liquid was observed.

56. Halfcrate # H03211 (HNUS # SC-565XX-H) Dated 12/18/90

- The liner looked new.
- The top of the block was covered with a white crust approximately 1/16 inch thick. Across the top of the white crust appeared to be salt crystals. Underneath the crust the material was grey.

- Penetrometer Readings: All > 4.5.
- All sampling was performed using a hammer and chisel and the block was very hard.
- The material broke off the block in dry, thin, slate-like chips.
- The block was very hard to sample, and no voids or free liquid was observed.

57. Triwall # 2739 (HNUS # SC-57408-M) Dated 3/22/87

- This triwall was in metal container M00661.
- The liner had a slight orange discoloration.
- The top of the block was white and covered with dusty white granules.

- Penetrometer Readings: All 0.
- The Shelby tube was easily pushed into the block using the sledgehammer.
- The remaining sample was taken using the chisel and spoons.
- The material was dry, soft, breaks easily to a sand texture, and does not press together when squeezed.
- No free liquid was observed.
- Some artificial voids were created by the plastic liner folding into the block.

58. Triwall #2804 (HNUS # SC-58408-M) Dated 4/7/87

- This triwall was in metal container M00661.
- The liner was discolored orange and was cracking.
- The top of the block was yellow with a layer of off-white granules under the surface. Underneath the granules the block was grey.

- Penetrometer Readings: 2.5, 2.0, > 4.5, > 4.5, 4.0.
- The Shelby tube was inserted into the block using the sledgehammer.
- The remaining samples were taken using the chisel.
- The material could be pressed together by hand, but crumbled easily.
- The material was dry in appearance, medium gravel size, and was slightly adhesive.
- No voids and no free liquid were observed.

59. Triwall #748-03257 (HNUS # SC-595XX-M) Dated 7/21/89

- This triwall was in metal container M00424.
- The liner was orange and torn.
- The top of the block was grey, dry and looks like sand.

- Penetrometer Readings; Conflicting, probably zero.
- The Shelby tube was easily pushed into the block by hand.
- A shovel was used to take the remaining samples.
- The inside of the block was a greyish white, and no voids and no free liquid were observed.
- The material was a very fine, soft grey-white sand.

60. Triwall # 748-3226 (HNUS # SC-605XX-M) Dated 7/12/89

- This triwall was in metal container M00424.
- The liner was orange and torn.

- Penetrometer Readings: 0.25, 0.25, 1.0, 1.0, 1.5.
- The Shelby tube inserted easily by hand.
- A shovel was used to take the remaining sample.
- The material was greyish white with some brown areas, with a moist, flour-like texture.
- Though a fine particulate, the material was slightly adhesive.
- No voids and no free liquid were observed.

1) SC - 01408 - M

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-748-04104 salterete

SOURCE: TENT No. : 8 Stack 9 | DATE No. : 7-21-88
PAD No. : 904 moo 818 | TIME No. : _____

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHELBY TUBE	☒ – undisturbed sample
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

White w/ orange stripes
DRY – DUST & CRUMBS – Clumps crumble

1 Shelby tube w/ shovel
pen + reader 2.10, 3.75, 5.0, 2.75, 5.0
material is DRY
No Free liquid

SAMPLER'S NAME (print)	(signature)	(date)
Douglas Pretzer		1-7-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	Steven G Davis	1-7-92

(2) 5C-02408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-188 02873

SOURCE: TENT No. : S Stack 4 DATE No. : 5-17-88
PAD No. : 104 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHESLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
light gray, hard flaky, granular, particulates, dusty

Penetrometer tests (5) 4.5, 4.5, 4.5, 2.5, 4.5
Do voids exist? No
Is there free liquid No
Material wet or dry Dry

SAMPLER'S NAME (print)	(signature)	(date)
M. Bunn		1-13-92

RECORDER'S NAME (print)	(signature)	(date)
Kit DiSalle		1-13-92

(3) SC-03408-T and SC-03408-T-D

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03912 Saltcrete

SOURCE: TENT No. : 8 Stack 6
PAD No. : 904
DATE No. : 5-22-88
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒ (Undisturbed)
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Light grey/off white
some particulates (rock salt, sized) + smaller
very Dry, Dusty - But material can be pressed together
but breaks into granuals very easily

Penetrometer test 5.0 2.5 2.5 4.0 2.0
Material wet or dry? Dry w/ particulates
Do voids exist? None
Free water? None

SAMPLER'S NAME (print) R. WILLIAMS (signature) ____ (date) 1-13-92

RECORDER'S NAME (print) STEVEN DAVIS (signature) ____ (date) 1-13-92

4 SC-04466-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03874 SALTCRETE

SOURCE: TENT No. : 7 DATE No. : 5-17-88
PAD No. : 904 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:		SMAPLE DESCRIPTION :	
DRILL	☐	SOLID	☒
HAMMER & CHISEL	☒	SEMI SOLID (PLASTIC)	☐
SHEBLY TUBE	☒ undisturbed	SLUDGE	☐
SHOVEL	☒	OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Grey - off white
Mate- has fine granuals like (medium sand)
material can be pressed together and has some clay-like properties. But material still crumbles easy.

Penetrometer test All over 4.5 most off scale
No voids exist
No Free liquid
Material is dry - damp inside but still crumbles easy

SAMPLER'S NAME (print)	(signature)	(date)
R. Williams	[signature]	1-13-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	Steven B Davis	1-13-92

(5) SC - 05410

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-3890 Stack F Saltcrete

SOURCE: TENT No. : 16 Stack F
PAD No. : 904
DATE No. : ~~1-13~~ 01-13-92
TIME No. : ~~0800~~

BOX LABEL INFORMATION : 3890

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Trucall very dry & hard, had to use Forks from forklift to lower shelby.
Color was a lite grey/white
There sending 2 partial full shelby tubes.
Pentrometer test "hard all the way around (5.0)
Material wet or dry? Very Dry
Do voids exist? No
Free water? None

SAMPLER'S NAME (print) Rick Williams (signature) [signature] (date) 1-13-92

RECORDER'S NAME (print) Michelle Hershey (signature) Michelle Hershey (date) 1-13-92

a) SC - 3690 - 7

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : B- Stack F Saltcrete

SOURCE: TENT No. : 10 DATE No. : 1-13-92
PAD No. : 904 TIME No. : 9:00

BOX LABEL INFORMATION : 39856 6-23-88

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Color is gray/white, texture hard and flakes when hit w/ hammer and chisel. Only one shelby tube sample was taken and it was partially full.

Pentrometer test 5.0 passed all the way around.
Material wet or dry? very dry
Do voids exist? no
Free water? none

SAMPLER'S NAME (print)	(signature)	(date)
Rick Williams	Rick Williams	1-13-92

RECORDER'S NAME (print)	(signature)	(date)
M.L. HERSHEY	Michelle Hershey	1-13-92

(5) SC-07408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-745-74226 Saltcrete

SOURCE: TENT No. : 8 Stack F DATE No. : 3-16-88
PAD No. : 104 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
light brown, dry, porous on top. Sides split with fine dust blown out. Fine dry powder. No voids and rocks. Very hard. Cut crumbles to powder when broke up.

Pentrometer test	3.5, 2.0, 3.0, 3.0, 2.5
Material wet or dry ?	DRY
Do voids exist ?	NO
Free water ?	NO

SAMPLER'S NAME (print)	(signature)	(date)
K.C. Avgaiano	K.C. Avgaiano	1-14-92

RECORDER'S NAME (print)	(signature)	(date)
K.A. DiSalla	K.A. DiSalla	1-14-92

(8) SC-08408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-1118-135524 Saltcrete

SOURCE: TENT No. : 8 Stack 4
PAD No. : 104
DATE No. : 1-28-87
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

- DRILL ☐
- HAMMER & CHISEL ☒
- SHELBY TUBE ☒
- SHOVEL ☒

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ____

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Strong ammonia smell. Had small powder particulate on top. Gray color consistently. Material sticks together slightly then crumbles. Fine powder.

Pentrometer test	1.5, 2, 1.0, 1.5, 1.5
Material wet or dry ?	Dry
Do voids exist ?	NO
Free water ?	NO

SAMPLER'S NAME (print) Bradley Bounds (signature) Bradley Bounds (date) 1-14-92

RECORDER'S NAME (print) K.A. DiSalla (signature) K.A. DiSalla (date) 1-14-92

(9) SC-09408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-748-7 Saltcrete

SOURCE: TENT No. : 3 Stack J DATE No. : 1-4-88
PAD No. : 904 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Material is light grey with white, medium. Flaky chips and particulates on top. Has ~~some~~ ammonia smell. Sample dry, crumbly. Do not stick together

Pentrometer test > 4.5, 4.5, 4.5, 4.5, 4.5
Material wet or dry ? Dry
Do voids exist ? No
Free water ? No

SAMPLER'S NAME (print)	(signature)	(date)
Mark DAgostino	M DA	1-14-92

RECORDER'S NAME (print)	(signature)	(date)
K.A. DiSalle	K.A. DiSalle	1-14-92

(10) SC-10408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04031 Saltcrete

SOURCE: TENT No. : ____ ent 8 DATE No. : 7-7 88
PAD No. : 904 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

- DRILL ☐
- HAMMER & CHISEL ☒
- SHEBLY TUBE ☒
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ____

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Light gray w/ white streaks
Material broke into med to coarse sand
Crumble - material was pressed in to ball
rock type material could not be pressed easily

Pentrometer test 4.0 5.0 5.0 4.5 4.5
Material wet or dry ? DRY
Do voids exist ? No
Free water ? None

SAMPLER'S NAME (print)	(signature)	(date)
R. Williams	[signature]	1-14-92

RECORDER'S NAME (print)	(signature)	(date)
Steven G Davis	[signature]	1-14-92

SC-11408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04059 SALTCRETE

SOURCE: TENT No. : 8 stack J1 DATE No. : 7-4-88
PAD No. : 904 TIME No. : _____

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☐
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Light gray w/ white streaks (Spiceal)
Material breaks into clumps - clumps themselves are not easily broken. Material breaks down into coarse sand texture

Pentrometer test All readings 5.0
Material wet or dry? Dry surface w/ lightly damp center
Pockets exist? No
Ever water? No

SAMPLER'S NAME (print)	(signature)	(date)
R Williams	[signature]	1-14-92

RECORDER'S NAME (print)	(signature)	(date)
Steven Davis	Steven G Davis	1-14-92

(12) SC-12408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04436 Saltcrete

SOURCE: TENT No. : 7 stack'd DATE No. : 10-10-88
PAD No. : 904 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒ undisturbed
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
white / gray with very thin paper like flakes on top of trench - material breaks up to a medium sand texture - material acts like damp clay can be pressed, smeared and formed but can also be crumbled
Pentromeier test All 5
Material wet or dry? Dry
Do voids exist? No
Free water? None

SAMPLER'S NAME (print) (signature) (date)

RECORDER'S NAME (print) (signature) (date)

Steven Davis Steven Davis 1-14-92

(13)

SC - ~~13~~ 13408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03831 Saltcrete

SOURCE: TENT No. : 8 Stack 0
PAD No. : 504
DATE No. : 5-13-88
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒ undisturbed
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	☐

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
White with gray splotches
Slightly Damp - can press small particles together
material clumped - broken down to med. sand/gravel

Pentrometer test 4.5 center 4.5 4.5 4.5 4.5
Material wet or dry? Dry
Do voids exist? No
Free water? None

SAMPLER'S NAME (print)	(signature)	(date)
Doug Pretzer	DC Pretzer	1-14-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	Steven Davis	1-14-92

1-) SC-14408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03937 Saltcrete

SOURCE: TENT No. : 8 Stack O DATE No. : 6-20-88
PAD No. : 304 TME No. : _____

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
off white w/ some light gray
some particulates on top.
material acts like dense clay.
(Slightly Damp) material is easily Pressed together

Pentrometer test 4,5 All around
Material wet or dry? Dry
Do voids exist? No
Free water? None

SAMPLER'S NAME (print) (signature) (date)

Douglas C. Pretzer Douglas C. Pretzer 1-14-92

RECORDER'S NAME (print) (signature) (date)

STEVE DAVIS Steven Davis 1-14-92

(15) SC-15462-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04174 SALTCRETE

SOURCE: TENT No. : 8 Stack B middle
PAD No. : 304
DATE No. : 6us 17-88
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHEBLY TUBE	☑
~~SHOVEL~~ Scoop	☑

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Brown / rust color Dusty
medium to fine sand
matl could be pressed and retain shape but
crumbled very easily

Pentronder test -0-
Material wet or dry ? Dry
Do voids exist ? No
Free water ? No

SAMPLER'S NAME (print) T J Goetz (signature) T J Goetz (date) 1-15-92

RECORDER'S NAME (print) STEVE DAVIS (signature) Steven Davis (date) 1-15-92

(16) SC-16408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04162 saltcrete

SOURCE: TENT No. : 8~~00~~1 STACK 13 Bottom DATE No. : 8-9-88
PAD No. : 904 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHEBLY TUBE	☒
SHOVEL scoop	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, NO. OF GRABS, MONITOR READINGS, etc.)
white w/ off white (yellowish)
very dusty - difficult to insert Shelby tube
material can be pressed together
tough to insert Shelby tube

Penitrometer test 4.5 center 4.0, 3.5, 3.0, 2.0
Material wet or dry? Dry - Dusty
Do voids exist? No
Free water? None

SAMPLER'S NAME (print) C J Goetz (signature) C J Goetz (date) 1-15-92

RECORDER'S NAME (print) STEVE DAVIS (signature) Steven G Davis (date) 1-15-92

(17) SC-17408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-02828 Saltcrete

SOURCE: TENT No. : F Stack 0? DATE No. : 4-10-87
PAD No. : 304 TIME No. : _____

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHEBLY TUBE	☒ und. stuffed
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
White gray sand very soft silt - material does press together
Dusty splits in liner

Pentrometer test 0 soft sand (Fine)
Material wet or dry? Dry
Do voids exist? No
Free water? None

SAMPLER'S NAME (print)	(signature)	(date)
C. J. GOETZ	C J Goetz	1-15-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	Steven Davis	1/15/92

(18) SG/8 5XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-02225 Saltcrete

SOURCE: TENT No. : ____ PAD No. : 730

DATE No. : 10-13-86 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

- DRILL ☐
- HAMMER & CHISEL ☒
- SHEBLY TUBE ☒
- SHOVEL ☒

SMAPLE DESCRIPTION :

- SOLID ☐
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ____

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Gray
med-sand texture - material can be rubbed or sifted into fines. Most pieces broke into med sized crumbs about golf ball sized

Pentrometer test 3.5 1.0 3.0 1.5 1.0
Material wet or dry? Dry
Do voids exist? N/a
Free water? None

SAMPLER'S NAME (print)	(signature)	(date)
Richard Williams	Richard Williams	1-15-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	Steven Davis	1-15-92

(19) SC-195XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03011

SOURCE: TENT No. : ____ DATE No. : 5-22-87
PAD No. : 59 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHEBLY TUBE	☒
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

off white fine sand
Fine sand clay like texture
acts like damp sand

Pentrometer test 1.0 around 5 blows
Material wet or dry? Dry - Damp center
Do voids exist? No
Free water? None

SAMPLER'S NAME (print)	(signature)	(date)
Richard Williams	[signature]	1-15-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	Steven L Davis	1-15-92

(20) SC-205xx-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-02585

SOURCE: TENT No. : ____ ACC. DATE No. : 2-2-87
PAD No. : 750 TIME No. : 3:55

BOX LABEL INFORMATION : 748-02585 CT 14256 BS
804-02585

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☐
SEMI SOLID (PLASTIC)	☒
SLUDGE	☐
OTHER : CLAYISH - SOMEWHAT	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

GREY, CLAY LIKE, PLASTIC, PLIABLE, BAD AMMONIA ODORS, MOIST
SHELBY HOLE SMOOTH, GREY, HOMOGENEOUS, HOLDS SHAPE.
Pentrometer test - 2.0, 2.0, 2.0, 1.5, 1.75
Material wet or dry ? DRY, CRUMBLE, GREY
Do voids exist ? NO VOIDS
Free water ? NO FREE LIQUIDS

SAMPLER'S NAME (print) M Dagastino (signature) _____ (date) _____

RECORDER'S NAME (print) Kat A Puyear (signature) KATHLEEN A PUYEAR (date) KAP 1-16-92

(21) SC-215XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-02237

SOURCE: TENT No. : ____ ?
PAD No. : 750

DATE No. : 12-23-86
TIME No. : ____

BOX LABEL INFORMATION : 748-02237

SAMPLE METHOD:

FORKLIFT	☒
DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☒
SLUDGE	☐
OTHER :	

SEMI DRYISH

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

GREYISH, DRY CRUMBLY, TEXTURED, FLAKY, GRADY - ~~PASTEY~~
AMMONIA ODORS.

Pentrometer test 2.5, 2.5, 3.0, 3.0, 4.0
Material wet or dry ? DRY
Do voids exist ? NO VOIDS
Free water ? NO FREE H2O.

SAMPLER'S NAME (print)	(signature)	(date)
M DAgostino	M DAgostino	1-16-92

RECORDER'S NAME (print)	(signature)	(date)
Kathy Pryor	KATHY PRYOR	1-16-92

(22) SC-225XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 3137

SOURCE: TENT No. : ____ PAD No. : 750
DATE No. : 7-10-87 TIME No. : 9:45

BOX LABEL INFORMATION : 804-3137

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHELBY TUBE	☒
SHOVEL (SPOONS)	☒

SMAPLE DESCRIPTION :

SOLID	☐
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : DRY, FLOURIKE	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
OFF WHITE, ANTIQUE WHITE, FINE PARTICULATES, FLOUR (BAKING FLOUR TEXTURE) SOFT, FLY AWAY DRY PARTICULATES ALL THE WAY THRU. WHEN PULLED OUT SHELBY TUBE, THE HOLE COLAPSED, COULD NOT HOLD WALL SHAPE. ALMOST LOOKS LIKE DRY UNUSED CEMENT - BUT DIFF. COLOR

Pentrometer test 0,0,0,0,0
Material wet or dry ? DRY
Do voids exist ? NO
Free water ? NO

SAMPLER'S NAME (print)	(signature)	(date)
M D Agostino	M D Agostino	1-15-92

RECORDER'S NAME (print)	(signature)	(date)
KATHLEEN A. PUYEAR	Kathleen A Puyear	1-16-92

(23) SC-23408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 03456

SOURCE: TENT No. : 8 STACK C DATE No. : 9-22-87
PAD No. : 704 PAD TIME No. : ____

BOX LABEL INFORMATION : 03456

SAMPLE METHOD:
- SLEDGE HAMMER ☒
- DRILL ☐
- HAMMER & CHISEL ☐
- SHEBLY TUBE ☐
- SHOVEL ☐
- FORKLIFT ☒

SMAPLE DESCRIPTION :
- SOLID ☐
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ____

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Pentrometer test 1.5, 1.5, 1.5, 2.0, 1.75
Material wet or dry ? DRY
Do voids exist ? NO
Free water ? NO

SAMPLER'S NAME (print)	(signature)	(date)
Brad Bounds	Bradley Bounds	1/16/92

RECORDER'S NAME (print)	(signature)	(date)
KATHERN PUYEAR	Kat A Puyear	1-16-92

(24) SX-24408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04084

SOURCE: TENT No. : 8 STACK C
PAD No. : 904
DATE No. : 7-2-88
TIME No. : 1110

BOX LABEL INFORMATION : 748-04084 1741 LBS

SAMPLE METHOD:

DRILL	☒
HAMMER & CHISEL	☒
SHELBY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

GREY - HARD AS A ROCK, POROUS, PUMIC LIKE, CRACKS AT ANGLES WHEN CHIPED - BREAKS INTO 3-4, & 2-3 INCH PIECES (FEW SMALL BUBBLES - WHEN PUNCHED)
DRY, SOLID HOMOGENEOUS

Pentromeder test 5.0, 5.0, 5.0, 5.0, 5.0
Material wet or dry? DRY
Do voids exist? NO
Free water? NO

SAMPLER'S NAME (print)	(signature)	(date)
Brad Bounds	Bradley Bounds	1/16/92

RECORDER'S NAME (print)	(signature)	(date)
LARRY PUYEAR	Larry A Puyear	1-16-92

(21) SC-25408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-02549

SOURCE: TENT No. : 2 Stack 6
PAD No. : 904

DATE No. : 1-2-87
TIME No. : _____

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : _____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Sandy texture tan/green in color
white part [illegible]

Penetrometer tests (5) 2.5 all around
Do voids exist? No
Is there free liquid No
Material wet or dry DRY

SAMPLER'S NAME (print) Richard Williams (signature) [signature] (date) 1-16-92

RECORDER'S NAME (print) STEVE DAVIS (signature) [signature] (date) 1-16-92

(26) SC- 26408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03653

SOURCE: TENT No. : 2 Stack — DATE No. : 10-29-87
PAD No. : 904 TIME No. : ______

BOX LABEL INFORMATION : ______

SAMPLE METHOD:		SMAPLE DESCRIPTION :	
DRILL	☐	SOLID	☒
HAMMER & CHISEL	☒	SEMI SOLID (PLASTIC)	☐
SHEBLY TUBE	☑	SLUDGE	☐
SHOVEL	☐	OTHER : ______	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
white particulates
white [illegible] block
- has what looks popped air bubbles on top of block

Penetrometer tests (5) 4,0 center 4,5, 4,5, 5,0 4,5
Do voids exist? No
Is there free liquid No
Material wet or dry Dry - DAMP

SAMPLER'S NAME (print) (signature) (date)
Richard Williams [signature] 1-16-92

RECORDER'S NAME (print) (signature) (date)
Steve Davis [signature] 1-16-92

(27) SC-275XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03125

SOURCE: TENT No. : ____ Stack
PAD No. : 750
DATE No. : 7-10-87
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
White / off white sand matter
Black seems to have expanded considerably
Penetrometer tests (5) - ALL 2050
Do voids exist? No
Is there free liquid None
Material wet or dry Dry

SAMPLER'S NAME (print) Richard Williams (signature) [signature] (date) 1-16-92

RECORDER'S NAME (print) STOVE DAVIS (signature) Steven Davis (date) 1-16-92

(28) SC-285XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- unknown Saltcrete

SOURCE: TENT No. : ______ Stack —
PAD No. : ______

DATE No. : 6-25-89
TIME No. : ______

BOX LABEL INFORMATION : ______

SAMPLE METHOD:

- DRILL ☐
- HAMMER & CHISEL ☒
- SHEBLY TUBE ☒
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ______

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

white sand very soft
mushy clay interior
DRY PARTICULATES on top of block

Penetrometer tests (5) -0-
Do voids exist? NO
Is there free liquid NO
Material wet or dry Wet inside dry top

SAMPLER'S NAME (print): Richard Williams (signature) [signature] (date) 1-16-92

RECORDER'S NAME (print): STEVE DAVIS (signature) Steven G. Davis (date) 1-16-92

(29) SE-29408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04160

SOURCE: TENT No. : 7 Stack 2 DATE No. : 8-5-88
PAD No. : [illegible] TIME No. : ______

BOX LABEL INFORMATION : ______

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☑
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ______	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

White particles – [illegible] crumbles
texture of [illegible] – [illegible] but not
stay pressed

Penetrometer tests (5) 4.5 [illegible] [illegible] [illegible] [illegible] 3.5
Do voids exist? No
Is there free liquid No
Material wet or dry Dry

SAMPLER'S NAME (print): Douglas [illegible] (signature): [signature] (date): 1-16-[illegible]

RECORDER'S NAME (print): Steve [illegible] (signature): [signature] (date): [illegible]

(39) SC-30408-I

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 3795 [illegible]

SOURCE: TENT No. : 5 Stack — DATE No. : 4-5-87
PAD No. : 904 TIME No. : ______

BOX LABEL INFORMATION : ______

SAMPLE METHOD:

- DRILL ☐
- HAMMER & CHISEL ☒ A
- SHEBLY TUBE ☒
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ______

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Rock hard — white [illegible] looks like
cement very difficult
2 tubes needed for 12" sample
Penetrometer tests (5) 5.6 Center 5.0 - 5.0 5.0 [illegible]
Do voids exist? No
Is there free liquid No
Material wet or dry Dry

SAMPLER'S NAME (print) (signature) (date)
Douglas C Potter [signature] 1-16-92

RECORDER'S NAME (print) (signature) (date)
Steve Davis [signature] 1-16-92

(31) SC-31XXX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 748-03440

SOURCE: TENT No. : ____ Stack | DATE No. : 1/20/92
PAD No. : ____ | TIME No. : ____

BOX LABEL INFORMATION : 748-03440 Accum date 9-20-87

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Light gray, solid, dry no moisture. Use Hammer + chisel to collect remaining samples. material was sandy in some area after using this method, some chunks were collected but crumbled by touch.

Penetrometer tests (5) 4.5, 4.5, 4.0, 2.5, 4.0
Do voids exist? NO
Is there free liquid NO
Material wet or dry dry

SAMPLER'S NAME (print)	(signature)	(date)
M D Agostino	M D Agostino	1-20-92

RECORDER'S NAME (print)	(signature)	(date)
Brad Bowles	Bradley E Bowles	1/20/92

(32) SC-325XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-748-02410

SOURCE: TENT No. : ______ Stack —
PAD No. : 750

DATE No. : 1/20/92
TIME No. : ______

BOX LABEL INFORMATION : 748-02410 Accum date 7-10-87

SAMPLE METHOD:

- DRILL ☐
- ~~HAMMER~~ & CHISEL ☒
- SHEBLY TUBE ☒
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☐
- SEMI SOLID (PLASTIC) ☒
- SLUDGE ☐
- OTHER : ______

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
tan (light brown) solid but crumbled at touch. Box in poor condition due to expansion of drywall. some flaking, material had no moisture.

Penetrometer tests (5) 1.0, 0.5, 1.25, .75, 0
Do voids exist? NO
Is there free liquid NO
Material wet or dry very dry

SAMPLER'S NAME (print): Mark Cadel (signature): Mark Cadel (date): 1/20/92

RECORDER'S NAME (print): Bradley Bounds (signature): Bradley L. Bounds (date): 1/20/92

(33) SC-33-XX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-804-03018

SOURCE: TENT No. : _____ Stack — DATE No. : 1/20/92
PAD No. : _____ TIME No. : _____

BOX LABEL INFORMATION : N/A Accum date: 5-28-87

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : _____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
light gray, solid, no voids material broken off into chunks some chunks could be crushed by hand. no moisture. other chunks could be broken into half with the use of two hands

Penetrometer tests (5) 4.5, 4.5, 4.5, 4.0, 4.0
Do voids exist? no
Is there free liquid no
Material wet or dry dry

SAMPLER'S NAME (print)	(signature)	(date)
M DAgostino	M DAgostino	1/20/92

RECORDER'S NAME (print)	(signature)	(date)
Bradley Bounds	Bradley Bounds	1/20/92

(34) SC-34XXX-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 03539

SOURCE: TENT No. : 8 Stack — PAD No. : 904

DATE No. : 1/20/92
TIME No. : _____

BOX LABEL INFORMATION : Accum date 12-26-86

SAMPLE METHOD:

- DRILL ☐
- ~~HAMMER~~ & CHISEL ☒
- SHEBLY TUBE ☒
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : Clay like texture

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

gray in color, clay like texture, no voids found, material can be broke in half, but can not be smashed by hand.

Penetrometer tests (5) 4.5, 2.75, 3.0, 2.0, 3.0
Do voids exist? NO
Is there free liquid NO
Material wet or dry SOME MOISTURE (little to none)

SAMPLER'S NAME (print)	(signature)	(date)
Mark Adams	Mark Adams	1-20-92

RECORDER'S NAME (print)	(signature)	(date)
Brad Bounds	Bradley E Bounds	1/20/92

(35) SC-35 5XX-7

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03037

SOURCE: TENT No. : ____ Stack
PAD No. : 750
DATE No. : 1/20/92
TIME No. : ____

BOX LABEL INFORMATION : Accum date 5-27-87

SAMPLE METHOD:

- DRILL ☐
- ~~HAMMER~~ & CHISEL ☒
- SHELBY TUBE ☒
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : clay like texture.

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
gray in color clay like texture some moisture no free liquid soft enough to get remaining sample with chisel + spoons.

Penetrometer tests (5) 3.5, 3.0, 3.0, 3.0, 3.0
Do voids exist? NO
Is there free liquid NO
Material wet or dry some moisture

SAMPLER'S NAME (print)	(signature)	(date)
Mark Addis	Mark Addis	1/20/92

RECORDER'S NAME (print)	(signature)	(date)
Brad Bounds	Bradley C Bounds	1/20/92

(36) SC-36408-T (1)

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04634 SALTCRETE

SOURCE: TENT No. : 7 Stack H
PAD No. : 904

DATE No. : 12-11-88
TIME No. : ______

BOX LABEL INFORMATION : ______

SAMPLE METHOD:

- DRILL ☐
- HAMMER & CHISEL ☑
- SHEBLY TUBE ☑ undisturbed
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☑
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ______

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Gray w/ white specks
material damp from hole

Penetrometer tests (5) 5.0 All around
Do voids exist? No
Is there free liquid No
Material wet or dry Dry

SAMPLER'S NAME (print)	(signature)	(date)
RICHARD WILLIAMS	[signature]	1-20-92

RECORDER'S NAME (print)	(signature)	(date)
STEVEN G DAVIS	[signature]	1-20-92

(37) SC-37408-T and SC-37408-T-D

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03817

SOURCE: TENT No. : 8 Stack N/A
PAD No. : 304
DATE No. : 5-13-88
TIME No. : _____

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Sandy gray surface - Damp brown soil
some pebbles on surface

Penetrometer tests (5) 3.5 center 2.0, 1.0, 1.5 2.0
Do voids exist? No
Is there free liquid No
Material wet or dry Damp -

SAMPLER'S NAME (print)	(signature)	(date)
Richard Williams		1-20-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS		1-20-92

(37) SC-38402-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03386

SOURCE: TENT No. : 8 Stack — PAD No. : 904

DATE No. : 5-1988
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

white / gray w/ particulates
very hard
some large bubbles on surface

Penetrometer tests (5) 5.0 + All
Do voids exist? No
Is there free liquid No
Material wet or dry Dry

SAMPLER'S NAME (print) Richard Williams (signature) Richard Williams (date) 1-20-92

RECORDER'S NAME (print) Steve Davis (signature) Steven J Davis (date) 1-20-92

39 SC-39403-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04381

SOURCE: TENT No. : 8 Stack C
PAD No. : 304
DATE No. : 10-4-88
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☑
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

gray - green
Some [illegible] colored particulates
- Clay like consistancy inside under surface

Penetrometer tests (5) 3.0 All
Do voids exist? No
Is there free liquid NO
Material wet or dry DAMP Clay like

SAMPLER'S NAME (print)	(signature)	(date)
Richard Williams	[signature]	1-20-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	[signature]	1-20-92

(40) SC-40408-T

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-03882 Saltcrete

SOURCE: TENT No. : 8 Stack —
PAD No. : 904

DATE No. : 5-18-88
TIME No. : ______

BOX LABEL INFORMATION : ______

SAMPLE METHOD:

- DRILL ☒
- HAMMER & CHISEL ☒
- ~~SHEBLY TUBE~~ ☒
- SHOVEL ☐

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ______

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

gray

Penetrometer tests (5) 5,0 ~ Very solid
Do voids exist? No
Is there free liquid No
Material wet or dry Dry

SAMPLER'S NAME (print) Richard Williams (signature) ______ (date) -20-92

RECORDER'S NAME (print) STEVEN DAVIS (signature) Steven S Davis (date) 1-20-92

(41) SC-41408-M and
SC-41408-M-D

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04099

SOURCE: TENT No. : 8 Stack Q
PAD No. : 904
DATE No. : 01-06-87
TIME No. : ____

BOX LABEL INFORMATION : 748-04099

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHELBY TUBE	☒
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
04099 VERY HARD, ~~BRITTLE~~ TEXTURE - CRACKING AND CRUMBLING AS SHELBY TUBE HAMMERED IN
-04099 used for duplicate and 11 gas extraction
Penetrometer tests (5) 4.0, >4.5, >4.5, >4.5, >4.5
Do voids exist? NO VOIDS
Is there free liquid NO FREE LIQUIDS
Material wet or dry DRY - ~~FRIABLE~~ VERY LITTLE MOISTURE

SAMPLER'S NAME (print)	(signature)	(date)
R.J. APPUGLISE 516108		01/21/92

RECORDER'S NAME (print)	(signature)	(date)
K.M. JOHNSON 511,337	Kathryn D. Johnson	01/21/92

(42) SC- 424XX-T

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-04440

SOURCE: TENT No. : ____ Stack —
PAD No. : 904
DATE No. : 10/8/88
TIME No. : ____

BOX LABEL INFORMATION : 748-04440

SAMPLE METHOD:

DRILL	☐
~~HAMMER~~ & CHISEL	☒
SHESLY TUBE	☒
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
MED. GREY COLOR (EG., WET CEMENT) LINER NEAR MATERIAL SLIGHTLY BRITTLE AND DISCOLORED (RUST COLOR)

Penetrometer tests (5) 3.0, 3.0, 2.0, 3.5, 3.5
Do voids exist? NO
Is there free liquid NO
Material wet or dry SLIGHTLY DAMP

SAMPLER'S NAME (print)	(signature)	(date)
R. APPULGISE 516108		1/21/92

RECORDER'S NAME (print)	(signature)	(date)
K. M. JOHNSON 516337	K. M. Johnson	1/21/92

(43) SC-435XX-T and SC-435XX-T-D

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-3287 [illegible]

SOURCE: TENT No. : 750 [illegible] DATE No. : 6-7-88
PAD No. : [illegible] M001115 TIME No. : ______

BOX LABEL INFORMATION : ______

SAMPLE METHOD:

- DRILL ☐
- ~~HAMMER~~ & CHISEL ☒ spoons
- SHEBLY TUBE ☑
- SHOVEL ☐

SMAPLE DESCRIPTION : Soft Beach

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ______

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Lt. Brown [illegible]
more [illegible]

Sandy surface + through

Penetrometer tests (5) - 0 -
Do voids exist? No
Is there free liquid No
Material wet or dry Dry

SAMPLER'S NAME (print) (signature) (date)

Rick Williams [signature] 1-21-92

RECORDER'S NAME (print) (signature) (date)

Steve Davis [signature] 1-21-92

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-3093

SOURCE: TENT No. : 1115 MOD
PAD No. : 750

DATE No. :
TIME No. :

BOX LABEL INFORMATION :

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHEBLY TUBE	☒
~~SHOVEL~~ spoon	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
light gray/white sand texture throughout block
easy to sample very soft throughout

Pentrometer test -0-
Material wet or dry? Dry
Do voids exist? No
Free water? None

SAMPLER'S NAME (print)	(signature)	(date)
RICHARD WILLIAMS		1-21-92

RECORDER'S NAME (print)	(signature)	(date)
STEVEN DAVIS	Steven Davis	1-21-92

(45) SC-455XX-H and

SC-455XX-H-D

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P-PC804-776-A-5560

SOURCE: Building 374
TENT No. : N/A Stack N/A
PAD No. : ~~N/A~~ 750
DATE No. : 10-29-89
TIME No. : DAY

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☑
SHEBLY TUBE	☐
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☑
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Very Crumbly, grayish color

Penetrometer tests (5) All > 4.5
Do voids exist? NO
Is there free liquid NO
Material wet or dry Very Dry

SAMPLER'S NAME (print)	(signature)	(date)
TERRENCE E. HEALY	Terrence E. Healy	1-27-92

RECORDER'S NAME (print)	(signature)	(date)
TaJuan R. MARSHALL	TaJuan R. Marshall	1-27-91

(46) SC-465XX-H

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 748-00032

SOURCE: Building 374
TENT No. : N/A Stack N/A
PAD No. : N/A 750
DATE No. : 12-15-89
TIME No. : Day

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☑
SHEBLY TUBE	☑
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☑
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Greyish color, dry and crumbly breaks in chunks

Penetrometer tests (5) all > 4.5
Do voids exist? NO
Is there free liquid NO
Material wet or dry DRY

SAMPLER'S NAME (print)	(signature)	(date)
Steven Rice	Steven Rice	1-27-92

RECORDER'S NAME (print)	(signature)	(date)
Jashua R MARSHALL	Jashua R Marshall	1-27-91

(47) SC-475XX-H

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : [redacted] HOO 264 Half Crate

SOURCE: TENT No. : _____ Stock — originated 374
PAD No. : 750 — DATE No. : 4-8-90
TIME No. : _____

BOX LABEL INFORMATION : _____

SAMPLE METHOD:		SMAPLE DESCRIPTION :	
DRILL	☐	SOLID	☑
HAMMER & CHISEL	☑	SEMI SOLID (PLASTIC)	☐
SHEBLY TUBE	☐	SLUDGE	☐
SHOVEL	☐	OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
GRAY Evenly Colored
Very hard Pieces chip off
Breaks into fine to medium gravel

Penetrometer tests (5) 5.0 ALL
Do voids exist? No
Is there free liquid No
Material wet or dry DRY

SAMPLER'S NAME (print)	(signature)	(date)
[redacted] C J Goetz	C J Goetz	1-27-92

RECORDER'S NAME (print)	(signature)	(date)
Steve Davis	Steven Davis	1-27-92

(48) SC-485XX-H

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : ~~1~~- H03453 Half crate

SOURCE: TENT No. : ____ original 374 DATE No. : 4-5-91
PAD No. : 750 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:		SMAPLE DESCRIPTION :	
DRILL	☒	SOLID	☒
HAMMER & CHISEL	☒	SEMI SOLID (PLASTIC)	☐
SHEBLY TUBE	☐	SLUDGE	☐
SHOVEL	☐	OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

white surface
gray interior Breaks like pumice
/ very Hard inner looks similar also
softer shell But Doesnt float

Pentrometer test - 5 -
Material wet or dry? Dry
Do voids exist? No
Free water? None

SAMPLER'S NAME (print)	(signature)	(date)
RICHARD WILLIAMS	[signature]	1-27-92

RECORDER'S NAME (print)	(signature)	(date)
STEVE DAVIS	[signature]	1-27-92

(49) SC-495XX-H

ATTACHMENT 1
SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : ~~#~~03202 ~~Haltcrete~~ saltcrete

SOURCE: ~~TENT No. : 374~~ Stack — 374 originated
PAD No. : 750

DATE No. : 1-22-92
TIME No. :

BOX LABEL INFORMATION : ~~750~~ ~~374~~ ~~Tent 10~~

SAMPLE METHOD:		SMAPLE DESCRIPTION :	
DRILL	☐	SOLID	☑
HAMMER & CHISEL	☑	SEMI SOLID (PLASTIC)	☐
SHEBLY TUBE	☐	SLUDGE	☐
SHOVEL	☐	OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

solid clay - gray (light)
Penatrometer 5

Penetrometer tests (5) 5, 5, 5, 5, 5
Do voids exist? no
Is there free liquid no
Material wet or dry dry

SAMPLER'S NAME (print) (signature) (date)
KATHY GAETZ & ~~[illegible]~~ K. Gaetz 1-27-92

RECORDER'S NAME (print) (signature) (date)
511010
DJ KING Doris J King 1-27-92

(50) SC-505XX-H

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : ~~H~~00198 Halfcrete Saltcrete

SOURCE: TENT No. : ~~374~~ Stack 374 DATE No. 1-27-92
PAD No. : 750 TIME No. 8:20

BOX LABEL INFORMATION : H00198

SAMPLE METHOD:		SMAPLE DESCRIPTION :	
DRILL	☐	SOLID	☑
HAMMER & CHISEL	☑	SEMI SOLID (PLASTIC)	☐
SHEBLY TUBE	☐	SLUDGE	☐
SHOVEL	☐	OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

GRAY SOFT ENOUGH TO CRUMBLE
CLAY LIKE
Penatrometer 5

Penetrometer tests (5) 5, 5, 5, 5, 5
Do voids exist? no
Is there free liquid no
Material wet or dry dry

SAMPLER'S NAME (print)	(signature)	(date)
DOUG PRITZER	DCP	1-27-92

RECORDER'S NAME (print)	(signature)	(date)
511010 DJ KING	DJ King	1-27-92

(51) SC-515XX-H

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 748-004666

SOURCE: Building 374
TENT No. : n/a Stack n/a
PAD No. : n/a
DATE No. : 9-30-91
TIME No. : DAY

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☑
SHEBLY TUBE	☐
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☑
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Dry gray very hard, breaks in chips

Penetrometer tests (5) all > 4.5
Do voids exist? NO
Is there free liquid NO
Material wet or dry DRY

SAMPLER'S NAME (print)	(signature)	(date)
MARK A ADDIS	Mark A Addis	1/28/92

RECORDER'S NAME (print)	(signature)	(date)
TaJuan R. MARSHALL	TaJuan R Marshall	1-28-92

(52) SC-525xx-17

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- 776-A-6189

SOURCE: Building 374
TENT No. : N/A Stack N/A
PAD No. : ~~N/A~~ 750
DATE No. : 6-28-89
TIME No. : DAY

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☐
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER :	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Grayish, crumbly but hard

Penetrometer tests (5) all >4.5
Do voids exist? NO
Is there free liquid NO
Material wet or dry DRY

SAMPLER'S NAME (print)	(signature)	(date)
Matt DAgostino	M DAgostino	1-29-92

RECORDER'S NAME (print)	(signature)	(date)
TaJuan R Marshall	TaJuan R Marshall	1-28-92

(5B) SC-5 3/5 XX-H
(-2)

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : ~~P~~ HO-776-A-5441 Saltcrete

SOURCE: 374 TENT No. : _____ Stock — DATE No: [redacted] 4-1-89
PAD No. : _____ TIME No. : 1300

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☐
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : _____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

Crsey, crumbly

Penetrometer tests (5) all >4.5
Do voids exist? no
Is there free liquid? no
Material wet or dry dry

SAMPLER'S NAME (print)	(signature)	(date)
T. Healy	Terrence T. Healy	1-28-92

RECORDER'S NAME (print)	(signature)	(date)
SUSANA ZAMARRON	Susana Zamarron	1-28-92

(54) SC-595-XX-H

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : ~~P~~ H00277 Saltcrete

SOURCE: 374 TENT No. : _____ Stack
PAD No. : _____
DATE No. : 4-9-90
TIME No. : 1330

BOX LABEL INFORMATION : _____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☒
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : _____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

grey - very sandy - fine

Penetrometer tests (5) all greater than 4.5
Do voids exist? no
Is there free liquid no
Material wet or dry dry

SAMPLER'S NAME (print)	(signature)	(date)
S. Rice	Steve Rice	1-28-92

RECORDER'S NAME (print)	(signature)	(date)
SUSANA ZAMARRON	Susana Zamarron	1-28-92

(55) SC-555 XX-H

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : ~~X~~ HO 3509 Halfcrete Saltcrete

SOURCE: TENT No. : ____ Stock originated 374
PAD No. : 750
DATE No. : 5-9-91
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☒
HAMMER & CHISEL	☒
SHEBLY TUBE	☐
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
White top surface
gray inside
feels like breaking up a sidewalk
chips 3" round 1" thick are porous

Penetrometer tests (5) 5 ALL
Do voids exist? No
Is there free liquid No
Material wet or dry DRY

SAMPLER'S NAME (print) Anthony Fernandez (signature) J. Anthony Fernandez (date) 1-28-92

RECORDER'S NAME (print) Steven G Davis (signature) Steven G Davis (date) 1-28-92

(56) SC - 565 XX-H

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- HO 3211 Half crete Salt crete

SOURCE: TENT No. : ____ Stack 374 originated
PAD No. : 750
DATE No. : 12-1890
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☒
SHEBLY TUBE	☐
SHOVEL	☐

SMAPLE DESCRIPTION :

SOLID	☐
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Very white on surface 1/2 Deep approx gray center
ANOTHER tough one to sample

Penetrometer tests (5)	5 All
Do voids exist?	No
Is there free liquid	No
Material wet or dry	DRY

SAMPLER'S NAME (print)	(signature)	(date)
DORIS KING	D J King	1-28-92

RECORDER'S NAME (print)	(signature)	(date)
Steven DAVIS	Steven G Davis	1-28-92

(57) SC-5.7408-M

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

(0)

SAMPLE IDENTIFICATION No. : P-2739 Saltcrete

SOURCE: TENT No. : 8 Stack Q
PAD No. : 904 M00651
DATE No. : 3-22-87
TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

- DRILL ☐
- HAMMER & CHISEL ☒
- SHELBY TUBE ☒
- ~~SHOVEL~~ ☒ mistake

SMAPLE DESCRIPTION :

- SOLID ☒
- SEMI SOLID (PLASTIC) ☐
- SLUDGE ☐
- OTHER : ____

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)

White Dusty
med sandy texture

Penetrometer tests (5) -0-
Do voids exist? Plastic folded creating 5" deep Gaps
Is there free liquid NO
Material wet or dry Dry

SAMPLER'S NAME (print) RICHARD WILLIAMS (signature) [signature] (date) 1-28-92

RECORDER'S NAME (print) STEVEN DAVIS (signature) Steven G Davis (date) 1-28-92

58) SC-5540-M

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

D

SAMPLE IDENTIFICATION No. : P-2804 Saltcrete

SOURCE: TENT No. : 8 Stack 9 DATE No. : 4-7-87
PAD No. : 304 mod 661 TIME No. : ____

BOX LABEL INFORMATION : ____

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☑
SHEBLY TUBE	☒
SHOVEL	☒

SMAPLE DESCRIPTION :

SOLID	☒
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : ____	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Yellowish surface
off-white granuals under surface

Penetrometer tests (5) 2.5, 2, 5 5 4.0
Do voids exist? No
Is there free liquid No
Material wet or dry DRY

SAMPLER'S NAME (print) Richard Williams (signature) ____ (date) 1-28-87

RECORDER'S NAME (print) STEVEN G. DAVIS (signature) Steven G Davis (date) 1-28-87

(59) SC- 595XX-M

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- M00424

SOURCE: TENT No. : NA Stack N/A
PAD No. : 750 pad
DATE No. : 7-21-89
TIME No. : DAY

BOX LABEL INFORMATION : TRIWALL # 748-03257

SAMPLE METHOD:

DRILL	☐
HAMMER & CHISEL	☐
SHEBLY TUBE	☑
SHOVEL	☑

SMAPLE DESCRIPTION :

SOLID	☐
SEMI SOLID (PLASTIC)	☐
SLUDGE	☐
OTHER : Soft,	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
Sand, very soft gray outer color grayish white through the middle, granuate soil.

Penetrometer tests (5) 4.5 Did not penetrometer
Do voids exist? NO
Is there free liquid NO
Material wet or dry Dry

SAMPLER'S NAME (print)	(signature)	(date)
Mark D'Agostino	M D Agostino	1-30-92

RECORDER'S NAME (print)	(signature)	(date)
TaJuan R. Marshall	TaJuan R Marshall	

(60) SC-605XX-M

SAMPLE DATA SHEET 1

EG&G ROCKY FLATS, INC.
SAMPLE DATA SHEET 1
PONDCRETE MATERIAL

SAMPLE IDENTIFICATION No. : P- M00424 Telephone # 748-3226

SOURCE: TENT No. : n/a Stack n/a PAD No. : 750 pad | DATE No. : 7-12-89 TIME No. : Day

BOX LABEL INFORMATION :

SAMPLE METHOD:		SMAPLE DESCRIPTION :	
DRILL	☐	SOLID	☐
HAMMER & CHISEL	☐	SEMI SOLID (PLASTIC)	☐
SHEBLY TUBE	☑	SLUDGE	☐
SHOVEL	☑	OTHER : SOFT	

REMARKS : (e.g. COLOR, TEXTURE, No. OF GRABS, MONITOR READINGS, etc.)
grayish white texture. flour type texture but moist

Penetrometer tests (5) .25, .25, 1.0, 1.0, 1.5
Do voids exist? no
Is there free liquid no
Material wet or dry moist

SAMPLER'S NAME (print)	(signature)	(date)
MARK A. ADDIAS	Mark A. Addis	1-30-92

RECORDER'S NAME (print)	(signature)	(date)
TaJuan R MARSHALL	TaJuan R Marshall	1-30-91